



COLMAN'S RURAL WORLD

DEVOTED TO AGRICULTURE HORTICULTURE HORSES CATTLE SHEEP SWINE ETC.

ESTABLISHED 1848

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COLMAN'S RURAL WORLD.

NORMAN J. COLMAN, EDITOR.

Published every Wednesday, in Chemical Building, corner of Eighth and Olive streets, St. Louis, Mo., at one dollar per year. Eastern office, Chalmers D. Colman, 520 Temple Court, New York City. Advertisers will find the RURAL WORLD the best advertising medium of its class in the United States. Address all letters to COLMAN'S RURAL WORLD, Chemical Building, St. Louis, Mo.

While the RURAL WORLD is published at one dollar a year, it has temporarily allowed old subscribers to send actually NEW OR TRIAL subscribers with their own subscriptions at fifty cents a year, in order to largely increase the circulation and influence of the paper. This price is less than the cost of the white paper, presswork, folding, wrapping, mailing and preparing the postage, saying nothing of any other of the large expenses of maintaining offices, paying salaries and conducting such a paper in a large city. Renewals, unless accompanied by one or more NEW subscribers, must be at one dollar a year. All names are dropped as soon as subscriptions expire. The month named on the address tag, pasted on each issue, shows the month subscriptions expire, and renewals should be made two or three weeks before, so that names shall not drop out of list. It is gratifying to the proprietor to be able to state, in his half century's experience in conducting this paper, it has never enjoyed the patronage and prosperity it now does. Its circulation is increasing in a wonderful degree, and its advertising patrons, many of whom have used its columns for a quarter or a third of a century, are more than pleased with results. Let all our friends unite and press forward in extending its sphere of influence. It will do for others what it is doing for you, so get others to join the great RURAL WORLD army and receive the same benefit.

A MORE HOPEFUL OUTLOOK.

We are pleased to note that while at first writing the long drought has been fully broken, the situation is decidedly more hopeful than it was a week ago. Nearly all sections have had local rains that have at least arrested the injury that was being done, and in many places have been visited by copious rains. These have supplied stock water and where lack of water was causing farmers to sell their stock shipments are being checked in the expectation that pastures will soon be revived.

THE VALUE OF CORN FODDER.

Rains that have fallen in various sections of the state give us reason to hope that farmers may be able to harvest a good crop of corn fodder, even if the ears are small and few. The fodder crop should have the utmost care. Missouri farmers have usually had corn in abundance and the full value of the fodder has never been tested by them. But the man who saves in good condition every particle of feed is the one who will least feel the effects of this great drought. Prof. Patterson of the Maryland Experiment Station, who has made a study of the corn plant, says: "Corn husks or shucks contain 72 per cent of digestible matter, the blades or leaves 64.2 per cent and the stalks 56 per cent." This same authority says: "There is more digestible matter in the corn fodder from one acre than in the ears from one acre." Other investigators do not put so high an estimate on the feeding value of corn fodder compared with the ears; yet it has been very conclusively proven that from one-third to one-half of the nutritive value of the whole corn plant is in the stalks, leaves and shucks. These are facts for farmers to carefully consider this season. Every farmer knows how much fodder is annually damaged every winter, caused sometimes by being put carelessly in shock and by being left in the field to be covered by snow or rotted down by excessive rains. Sometimes corn fields are put in such a condition by rains and continued thawing and freezing during the winter that it is almost impossible to get into the field with the team, let alone draw a heavy load. Our aged friends tell us there is no one that pays his debts as truly as the weather, and that an excessive drought is usually followed by excessive rain. It is of utmost importance that all these factors be considered in efforts to save the fodder crop this season. Fodder, to have the best value, should be cut before it is all dried up. To get the best results when thus cut partially green, the corn should be cut on a clear, bright day, such a day as one would select for curing hay. The entire shock should be so managed as to insure the careful curing of the fodder. Some one has estimated that an ordinary corn

shock when fresh cut will weigh 1,000 pounds, and when dried out about 200 pounds. These figures make it evident that the shock should not be packed too closely when first cut, but the corn so cut and put up that it will not heat and mold. Where the fodder can be shredded at not too great a cost, it would certainly be advisable to shred and store that to be used for late winter or early spring feeding. Let the readers give for publication the methods of saving fodder they have found most practical and economical.

WEEDS.

Editor RURAL WORLD: Now that the regular farm work is well in hand we must mow some weeds. The steel weed is a pest here. It is not in seed yet and we want to get some of it mowed down. We got rid of cockle burrs in just the manner spoken of by the editor July 17, and one of the clinging pests is a novelty here now, but the sand brier or horse nettle (*Solanum carolinense*) defies every effort at eradication. In August I will break up three acres of old stubble where it is so abundant; this will be well prepared and sown to rye. The rye will be turned under when a foot high and the plot planted to cow peas with two-horse drill. The peas will be mowed for hay and land plowed for wheat. By these means we hope to down it. Yellow dock was once a bad pest on our farm, but we cut, dug and pulled until we have but little of it now, although some other weeds are plentiful than they were 25 years ago. C. D. LYON, Southern Ohio.

GROWING WINTER FEED THIS FALL.

Editor RURAL WORLD: The Missouri farmer does not often have to look upon so gloomy a prospect as that which now confronts him. While fair showers have been recently reported from many sections of the state they happen to have been principally confined to very limited areas, and the hope that they were the forerunners of copious and general rains has again been blasted. The scorching sun will soon render the condition of the corn in even the most favored section again very critical. However gloomy the prospect may be now, it may be fraught with great possibility, and the farmers, instead of losing heart and sacrificing everything, should make every possible arrangement to take advantage of any rains and favorable weather that we may have between now and frost. They should bear in mind that a large amount of surplus stock has already been thrown upon the market and that much less feed will be required than in the average season. Again, it is probable that much less fall feeding will be done this winter than usual, which will also have the effect of reducing the demand for grain feed. With an abundance of rain from now on fall pasture cannot fail to be good, and with the reduced stock supply will be sufficient to help out the winter supply of feed very materially. Then, too, with such a season from now on a large amount of excellent feed may be produced from any one of several forage crops of which particular mention will be made in another portion of this article. So it is possible that we may yet, under proper management, and with a good season, have plenty of feed to carry all the good stock yet in the country. On the other hand, the drought may continue, the worst forecasts realized, the rains may not come until too late to help grass this fall or to produce crops from seed planted now. At the same time it is believed to be the part of good business to be prepared to reap the full benefit of any changes for the better that may occur. Certain it is that he who doesn't sow cannot hope to reap while he who does sow may reap abundantly. Of the crops that may be sown now with reasonable assurance of a fair crop in case it rains, the following are recommended:

COW PEAS, which, if sown at once on well prepared land, wheat stubble, broken, or old stubble, disked, ought to make from one to two tons of hay per acre that excels clover in feeding value. This hay may be gotten off the ground in time to sow wheat or rye for early spring pasture, without another breaking, the surface being disked just ahead of the drill. Cow peas improve the land and make a splendid preparation for wheat. The Whipoorwill or New Era varieties are recommended for this late sowing, sown at the rate of a bushel per acre, either broadcast and covered with a cultivator, or disc-harrowed, or preferably sown with a wheat drill. The hay is cut, covered and handled about the same as is clover. Peas stand the drought and heat well after they get started.

SORGHUM is another drought and heat resisting crop; is very productive, and will mature before frost, if sown on well prepared land at the rate of a bushel of seed per acre. Early Amber is the variety preferred for this season. The hay may be cut with a mower, partially cured in the swath, then made into large shocks until thoroughly cured, then stacked for winter use. Leaving it in the shock all winter is too wasteful a process to be profitable this year. It is a little late to sow cow peas unless one has the seed on hand and can get them in promptly. Unfortunately the market is about exhausted of the seed of both cow peas and sorghum, so that

we may be obliged to rely upon some such crop as

KAFFIR CORN, which, when used as a hay crop, is grown and handled essentially the same as sorghum, although it is not usually considered to be quite so good a crop for the purpose. It is often used very successfully. As a grain crop planted earlier in the season, it has high ranking. The market yet affords plenty of this seed. Brown Dourha, a plant closely related to sorghum and Kaffir corn, and grown somewhat extensively in California and portions of Kansas, may be used in case none of the other sorts can be gotten. It is not considered to be so good, and will not mature quite as quickly. (Continued on page 8.)

GREENE CO., MO., NOTES.

Some Helpful Hints.

Editor RURAL WORLD: We are having the severest drought that we have had for many years. We have had but one rain in eleven weeks, and that only a light one, and stock water is getting very scarce on many farms. Our wheat crop is fairly good as to yield, and the quality of the berry is good. Some are threshing out of the shock, others are stacking. The hay crop is very light and very weedy. Oats are a failure. There will not be as much harvested in this township this season as were sown last spring. The stubble fields and meadows are as dry as tinder, with not a living weed or blade of grass, hence fires from the trains are the order of the day. Large amounts of grain, hay and pastures have been destroyed by fire.

As we have been viewing the dark side of the picture, now let us turn to the bright side and consider that, and we can see our way out. We will be close pressed for feed for live stock with which to carry it through the winter. As we have a good wheat crop, that means also a good straw crop, and that of the very best quality for there has been no rain on it since harvest. So let us stack our straw in good shape with run from the thrasher, and in such a locality that the stock can run to it, and it will be a good substitute for hay. A better plan is to put up a frame to support a roof. Stack the straw on three sides of it, extending the straw over the top for a cover. In this way you have a good and cheap shed for your stock. I will have two such sheds on my farm this winter, one for mules and horses, and one for cattle. Then save all the corn fodder you can, and economize on grain. Feed some wheat if it should be cheaper than corn. Buy and feed some bran. Shelter, water and salt your stock well, and the spring showers will cause the earth again to be clothed with verdure. We will have learned a lesson and feeding will be done in a more judicious manner. This drought and resulting close times for awhile may yet prove a blessing in disguise to the farmers of this country. Long live the RURAL WORLD.

Greene Co., Mo. R. H. SKEEN. Mr. Skeen's suggestions regarding the saving of wheat straw are good, only we would advise even more careful saving of it than he does. Stock cannot be permitted to run to the straw stack and feed at will without considerable waste resulting; more than is justifiable any year under average farm conditions, and particularly so this season of short crops and scarcity of stock food. Wheat straw of good quality is a good stock food when properly fed. The great difficulty with it is, first, that it is unpalatable, or, to state the case more correctly, it is so lacking in appetizing qualities that the stock will not eat it freely, and second, it is so ill balanced in its nutritive substances that if stock are confined to it alone even when eating large quantities of it they will be poorly nourished. It is lacking in nitrogenous or muscle making elements, and to get enough of these to meet the needs of the animal for this class of nutrients, it would have to eat too great a bulk and too large a proportion of the carbohydrates.

How should straw be fed? Mr. Skeen gives us a good hint. He says buy and feed some bran. Bran is over rich in just what straw is lacking—nitrogenous substances; it therefore will supplement and balance the straw and if mixed with the latter will add to its palatability, because stock are very fond of bran.

To get the most out of straw as stock food, then, one should be provided with a good hay cutter that will cut the straw into one-half inch lengths, after which it should be moistened, mixed with the bran and let stand from one feeding time until the next. Cotton seed meal, insected and dried brewers' grains are stock foods that are all very rich in nitrogenous nutrients and admirably adapted for supplementing such feeding stuffs as wheat straw, corn fodder, millet hay and the like; and by their use one can give to wheat straw a feeding value fully one-half as great as is that of timothy hay. If our farmers in the region where the drought has so seriously cut short the crops will instead of allowing the wheat straw, of which a good crop was secured this season, go to waste, carefully save the straw and feed it in the manner indicated it will go quite a good way towards compensating for the shortage in other forage crops, and possibly be a means of convincing many of the fact that such products as straw and corn fodder have a feeding value much greater than they had been given credit for.

Right here we are reminded of what

one of our readers, Mr. George Hausman of Franklin Co., Mo., told us a few days ago. He has a neighbor who raises wheat, but puts little value on the straw. After the wheat was cut this season, Mr. H. asked the neighbor what he would take for his straw, and was told \$1 an acre, which price Mr. H. agreed to pay, and for so doing was laughed at a good deal in the community. But since the drought has rendered the crop prospects so poor, the neighbors have ceased to regard Mr. Hausman's deal in so laughable a light.

Since the foregoing letter was received, the following from Mr. Skeen has come to hand:

Editor RURAL WORLD: The situation at this writing is becoming more serious as the days go by, only one little rain in twelve weeks, with the mercury ranging from 90 to 100 degrees in the shade. All hope of a corn crop is gone; pastures are as dry and dead as they can be made, with hot winds and the burning rays of the sun a very short hay and cut crop; also a light fruit crop, and that of a very poor quality, together with an almost complete failure in garden vegetables, and you have it about as it is in this part of the state, adding to these the scarcity of stock water, and the land too dry and hard to plow for wheat or the preparation for catch crops.

I have been trying to prepare some type stubble for peas, but cannot get a satisfactory seed bed. Peas that I sowed on June 8 failed to germinate well, and are dying for want of moisture. Some sown in corn at last plowing have failed to materialize.

As frugality is to be our watchword, I want to ask the editor or some of his many readers a few questions in relation to shelled corn fodder. Can the fodder be shredded with a grain thrasher? If so, how is the machine arranged as to cylinder and concave? Which end of the stalk is fed first into the machine? After being shredded can it be stacked out and covered with hay or straw in a manner that it will save? I would like to have this with any other information that those informed might deem beneficial to the unfortunates.

Greene Co., Mo. R. H. SKEEN.

Corn fodder can be quite satisfactorily shredded by running it through an ordinary grain thrasher. As to how the machine should be rigged for the work it will depend to some extent on the make of the machine, but an experienced thrasherman will have little difficulty in properly arranging the cylinder and concave for the work. We understand that usually the concave is removed and a board put in its place, or at least it is lowered considerably. Some prefer to have the cylinder fitted with old rather than new teeth, and possibly a portion out altogether. A trial will determine the better way of feeding—whether top or butt end.

The shredded fodder can be stacked out of doors, but, of course, must be well covered with hay or straw as a protection from rain.

This matter of saving the corn fodder is one of very great importance this season, and those of our readers who have had experience in the use of shredders and threshing machines will be doing their fellow farmers great service by giving them the benefit of this through the RURAL WORLD. Wherever the corn has made or does yet make sufficient growth to justify harvesting the crop, it should be saved. Possibly the dearth of stock food will induce many to save corn fodder who otherwise would not do so, and thus continue in ignorance of the feeding value there is in it. This is a time, too, when a consideration of the subject of silos and ensilage is more than ordinarily pertinent. With a silo available a crop of corn can be secured in less time than when it is allowed to mature and ripen grain. Then one is much more independent of the weather when making ensilage than when attempting to cure hay or fodder, and this is a very important point when the harvesting period is pushed into the fall. Let us hear from all those who have helpful suggestions to offer.

NOTES FROM AN OHIO FARM.

Editor RURAL WORLD: A WEEK'S WORK.—July 8 I pitched rye and barley to wagon and went to town after supper. Wayne and Harry hoed tobacco.

July 9. I pitched wheat, finishing at 2 o'clock, Arthur helping Edward thresh; four of us helped Hatfield thresh in the afternoon.

July 10. The boys were threshing for Hatfield until noon, I doing odd jobs. Edward had 216 bushels of wheat from 17 acres, Hatfield 82 from 44 acres.

July 11. I cradled oats for Martin; he and I cut five acres by 4 p. m. Harry and Arthur bound after dinner. Wes cradled for Albert—hot, windy day.

July 12. Cradled an acre of oats. All hands then finished hoeing tobacco at 3 p. m.; boys hoed out sorghum and went to town after supper.

July 13. Cut weeds in corn, all hands—dry and windy. Note.—A good week's work; crops all clean but one acre of corn; all the grain under cover except the oats; chinch bugs by the million in grass and stubble fields, only one shower since the heavy rain of July 1, and crops are suffering in many places; ours are all right yet—even on land plowed four and five inches deep.

Mr. Editor, a record like the foregoing is what we think every farmer should

keep. Ours has been kept for many years. Sometimes we forget it, and a week is missing, but most years are complete.

BIRDS AND INSECTS. Writing of chinch bugs reminds me that the quail is one of the few birds that eat these pests in numbers, and before me is a clipping sent by Governor Colman, saying that quail are unprotected by law in Illinois this season, and that the birds are at the mercy of pot hunters and sportsmen. Illinois may have a bad game law, but I know that she has good trespass laws and her farmers should see to it that these laws are enforced. I allow no quail shoot on the farm excepting what I shoot myself, and I think that these amount to about five in the past six years.

Tent caterpillars have been very scarce here since the May 19 past several years ago, but I saw a fine nest on a wild cherry bush last week. Yesterday I passed it again; it was in ruins and a cuckoo or "rain crow" on a tree near by told me that he was the destroyer. Of course, a few pairs of quail could do little towards saving the millions of chinch bugs we see in time of an outbreak, but a hundred chinch bugs eaten by birds in winter will make the summer crop thousands shorter. I can date serious damage by the coding moth back to 1878, and that was the first year the English sparrow came in sufficient numbers to drive away our native birds. Only one native bird seems to be on the increase here, and that is the red bird, but as an insect destroyer he is not a success, as he feeds on grain in winter. Black birds always appear in our fields by thousands in August. I shot one a few years ago and examined its crop. It contained a few insects of various kinds, and one grain of oats. I do not allow any one to molest the black birds since that.

CROPS, SOILS AND SEEDS. My old friend, Waldo Brown, writes that beard-lice is not at all satisfactory in his section. Now, friend Brown, can you grow sorghum for hay upon good soil, but we must sow it on second rate land, or it will all fall down. He can increase his yield of sweet potatoes by the use of manure, while if we use manure we have all vines and "nary tater." With him barley only grew a foot tall, while I have stalks measuring 36 inches. His land will grow as large or larger crops of corn or wheat than mine will, yet it is of a widely different nature. A few days ago I saw a 20-acre field of tobacco; it was a poor prospect for a crop, yet the best plants grew on the thinnest soil; this being due to the fact that the thin soil was clayey and warmer than the body of the field, and so better adapted to tobacco.

I once had a row of a certain variety of apples on very rich soil. The crop was always a failure, yet I knew of a row of the same sort on thin soil which always bore full crops. On our farm ashes, lime and potash seem to be of no benefit to our crops, yet 10 miles north they all do good service.

We helped neighbors cut oats on the 11th inst. It is now 6:30 p. m. on the 13th, and now our oats are all green but one acre, which was cut yesterday. Our seed was from the northwest, and the oats are of the "side" or seizure class, which is several days later than common oats. The acre cut was "Mortgage lifter." We will thresh our seed from these oats and sow next season, for while side oats yield several bushels per acre more, we cannot risk letting them stand so long in the field.

By the way, last year a friend told me that in 1899 he owned a plot of oats and the crop was full of smut. He had two bushels of seed left over and sowed it in 1900, that season he did not see a single head of smut; never a Mortgage lifter since was of the 1899 crop, and I have no smut. Perhaps age kills the spores, who knows?

Our State University has a professorship known as Agronomy, or the science of soils and crops with their relation to each other. The professor who occupies the chair, Prof. W. D. Gibbs, is a good friend of mine, and he told me last winter that the more he thought over the work of his department the more he recognized its importance.

OATS AGAIN. July 16, 7:30 p. m. We cut three and one-half acres of oats to-day and have 174 shocks of 12 sheaves. They were rather green, but the ground is very dry, the day hot and no promise of rain, so I think they will cure all right. We began with the binder at 9:30, and as we only use two horses, we did not get all cut until nearly 2 o'clock; as soon as dinner was over the boys went up and turned the sheaves over; after that they scattered the sheaves from the plow where the carrier left them, and we shocked up after supper. To-morrow we will uncup the shocks and recap late in the afternoon. Of course, one could not do this with a large crop; but with our five acres, nearly all to be fed in the sheaf, it will pay us to use all care to have them cured well.

FARM IMPLEMENTS. Our machine is a Walter A. Wood, of a pattern not now made, so this is no advertisement of the machine. I bought it in 1890, and have cut from 15 to 75 acres of grain per year with it ever since. It seems to be as good as it was the day I bought it, and has cost me for repairs \$1.45. When it is in use it goes into the barn, but when it has to stand a few days in the field we cover it with a shed. In cutting a harvest of say 25 acres, I use half a gal-

lon of oil. I never run the canvas any tighter than necessary to carry the grain, and the same may be said of sprocket chains. The canvas is the one bought with the machine, and is still good, all the original straps and buckles are on it, but when in use the straps are let out at night that the dew may not cause them to be too tight in the morning. The care of implements is quite a hobby with me, and I pride myself that my record is as good as that of any other farmer in my section. There is a tenant farmer a mile from me, who has his third binder since I bought mine, and he has as good a chance to house his machines as I have. It is simply carelessness. "If the machine is left out a week, a month won't hurt it, and if out a month, why not let it stand until harvest comes again?" My mower stands out, but it is covered with boards.

BLACKBERRIES. While we cut out the two small boys picked berries. We grow all other fruit large and small in the orchard and berry patch, but blackberries come from the fields. We have wild ones of both Lawton and Kittatinny type, and as large as any cultivated berries I ever saw. We think them better than any improved (?) berries, and we will have a great many put up in glass as well as in jelly and preserves. The boys report a very large crop and the berries are certainly larger than usual.

GETTING DRY. Sixteen days without rain to more than lay the dust, and crops are beginning to show the need of a good shower. My own crop is not suffering as yet, and we think this is due to the fact that the soil was thoroughly pulverized as deep as plowed before the corn was planted, and the tobacco hills made. I have an experiment under way to compare the growth of plants on packed soil alongside well-stirred soil, and as yet the plants on the packed soil are just as good, if not a shade better than the others, and are standing the drought fully as well; the result will be reported later. Here I will say that my experiment with cow peas turned under on tobacco exhausted soil, in hopes of restoring the elements necessary to grow a tobacco crop, is not turning out as favorably as it promised at first. The plants are showing the lack of something, and what that "something" is, no chemist as yet has been able to tell us. C. D. LYON, Southern Ohio.

A CHEERING LETTER.

From South Central Missouri.

Editor RURAL WORLD: A drop of 20 to 30 degrees in the temperature on Thursday night, July 25, made it possible to get a good night's rest, and good showers from time to time have put all our farmers and fruit growers in better spirits than at any time during the last four weeks. The drought has caused a loss of thousands of dollars to the people of our county, but good lessons, and doubtless some benefit, will result. The lessons to the orchardists are more marked. For example, in the orchards from which I gathered the fancy fruit for the Paris Exposition and that furnished the apples that have been filling the Missouri table at the Pan-American Exposition from the opening up to the middle of last July, the same trees have on them to-day apples of a better quality, if that be possible, than were those that helped to make up either the Paris or the Pan-American exhibit. And on examination I find the fruit is now fully as large as it was a year ago, even though no rain to soak the ground has fallen since April 17.

The inexperienced fruit grower may ask what has kept the trees and fruit in such condition? First, spraying to keep the foliage healthy and free from insect pests; second, thorough cultivation of the soil; and third, spraying the fruit with lime. To prove what spraying and cultivation will do for orchards, I hope to have specimens of my fruit on exhibition either at St. Louis Fair, the State Fair at Sedalia or in some prominent place in your city where all may see what can be done in dry, hot weather. While the trees are not carrying a heavy crop of fruit, still where the orchards have been well cared for the fruit will be, I think, of a more perfect quality than ever before.

The suggestions made in the RURAL WORLD have been followed all over this part of Missouri. Millet, cow peas, Kaffir corn, sorghum, rye, wheat are all being planted for winter forage or fall and winter pasturage. I have put in this week 17 acres of millet and next week will start the plow on land to be sown to rye and wheat for pasture, if the soil is moist enough we will sow as soon as done plowing, and turn in the stock as soon as the plants have made a growth of four or five inches.

Farmers are holding their wheat, as it is bringing only 65c per bushel, while corn shipped in is selling at 75c in 60 to 100 bushel lots and 75c in a retail way. I can use wheat for pig feed at 75c per bushel to as good advantage as corn at 65c.

I have two nice cribs of corn and hope, with seasonable rains, to make 1,000 to 1,500 bushels of corn, though most of my crop may make little else than fodder; but part of my corn is late and I have hopes of getting something besides fodder.

Wishing the grand old RURAL WORLD the success it deserves, I beg to remain the farmers' servant, A. NELSON, Leclaire Co., Mo.

THE COW PEA.

Harvesting, Curing and Stacking Same—Also Simple Contrivance Which Aids in Cutting and Makes It Easier.

Editor RURAL WORLD: The cow pea should be cut when the pods are beginning to dry, even if the vine is yet quite green, as by so doing you will save the seed and will have all the nutriment in the vine.

Here is a simple attachment that can be added to any mower which will make the cutting much easier:

Take the blade from a wheat cradle (that from a scythe being too narrow and light), take it to a blacksmith and have a hole drilled in it along the back half way from either end. Then have a piece made two and one-half feet long, three-quarters of an inch wide and five-sixteenths of an inch thick (iron or steel). Have a hole drilled in one end one-half inch and the other end the same size as that in the blade. Then get a couple of bolts, one one and three-quarters of an inch long and the other three-quarters of an inch long, to fit the second piece to the blade.

Now take the above blade, the snath from the cradle and your peck, brace and bit; go to the mower, bore a hole in the track clearer next to the shoe of the sickle bar and one about a foot from the other end of the track clearer. Insert the cradle snath in the first hole, put in the blade upside down, then fasten the small bar in the second hole in the track clearer; this forms a brace for the blade. When you are cutting the peas will be cut by this blade, leaving each swath separate from the other and not a solid mat, like you generally see them.

Let the peas lie for a day or two according to the heat of the sun, then go to work and gather them in. In putting them in stacks, crossing them with a few poles every few feet is very good, but here is a better way for more reasons than one: First, put down one-half load of straw, then a load of peas, then a load of straw, and then have a load of each alternately till you reach the top. A long track that is 14 feet wide and about 20 feet high is the best. Always put some old hay on top of the rick.

In saving them this way you utilize the straw, as the flavor of the peas is imparted to it, and the stock eat the straw the same as the peas, thus stretching your feed, which is badly needed a year like this.

When putting peas in the barn direct from the field you should be very careful not to have them too thick or they will fire.

If this escapes the waste basket I will come again. S. JEWETT, Jefferson Co., Mo.

VERNON COUNTY, MO., NOTES.

Editor RURAL WORLD: The extremely dry weather has been favorable for killing weeds, grubs and sprouts, and for cleaning out and repairing old ponds and making new ones. While pond water is not just the thing for an up-to-date farmer, it beats no water by a long shot, and a good sized pond with only a foot or two of water in it is a mighty nice thing to have just now.

We have put several ponds in shape since the first of June, and have more to do in the same line if the present conditions continue. We also have the satisfaction of seeing all the land we are cultivating this year—about two acres—entirely free of weeds. I guess the correspondent who complained of the rank growth of weeds last year knows how it is himself now. There are no indications of rain to-day, and hope for the real thing.

Eggs are worth three and one-half cents per dozen, and our grocery man lets out his fresh chicks on the shares. We missed Judge Miller's talk in RURAL WORLD of July 10. Hope our faithful friend and adviser is not sick. C. A. BIRD.

BUCKWHEAT FOR A CATCH CROP.

Editor RURAL WORLD: On account of the general failure of crops I would suggest that buckwheat can be sown for hay as late as the first of August; three pecks of the small grained or one bushel of the large grained seed to the acre. If the frost does not take it till the grain is in the milk or some of the seed begins to brown all the better; but should the frost take it when in full bloom and it is cut immediately the hay will be rich and valuable, now that hay and fodder are very scarce. I hope some enterprising farmers will test the matter by sowing several acres. The ground should be harrowed down even, so that it can be cut close in case it is short. Audrain Co., Mo. J. B. SYKES.

The Missouri Press Association at its annual summer meeting in St. Louis recently elected the following officers: President, E. P. Caruthers, Dunklin Democrat; first vice-president, Howard Ellis, New Florence Leader; second vice-president, T. L. Wilson, Tarkio Avalancher; third vice-president, T. L. Cannon, Interstate Manufacturer, St. Louis; recording secretary, J. M. Sower, Palmyra Spectator; corresponding secretary, R. M. White, Mexico Ledger; treasurer, W. L. Thomas, School and Home, St. Louis.

The Dairy

MISSOURI BUTTER.

It Wins Highest Award at Pan-American Exposition.

The jury of award of the dairy division of the Pan-American Exposition at Buffalo, N. Y., decided that Missouri butters had secured eight awards over the dairy states of the west, and had made the highest score of any of the eastern states, except New York and New Hampshire, which in one instance only have exceeded Missouri by only one-fourth of a point.

The highest award goes to H. C. Goodrich of Calhoun, Henry County, whose score was 97 1/2 points out of a possible 100. The success of Missouri butter at the Pan-American is sure to give a great impetus to butter making in this state and prepare the way for a grand exhibition of dairy products at the great Missouri State Fair to be held at Sedalia, September 9-13.

The large cash premiums offered for dairy products at the Missouri State Fair are certain to attract one of the finest and largest displays ever seen in this country, that of the Pan-American not excepted. The first premiums range from \$10 to \$50, while \$5 is the lowest prize on the list. The superintendent of the dairy department of the fair is M. E. Moore of Cameron, Clinton County, who will supply Missouri butter makers with such information they may desire.

THE MODEL DAIRY

At the Pan-American Exposition.

Editor RURAL WORLD: The universal prevailing heat reached us, and it seemed, for a time, as though our cows would succumb, but light breezes are now having the desired effect.

It is gratifying to know what interest people of all classes take in this dairy, and the many good questions asked, practical by practical people, otherwise by others, yet showing great interest by all. It has been noticed that with the exception of the U. S. Building, the Model Dairy is visited by more people than any other exhibit on the ground, and thus is shown the wisdom of Mr. Converse in its establishment.

Since you are to have a great Fair at St. Louis in the near future, I would suggest, should you intend to carry on such an experiment on the Exposition grounds, that silos be placed on the grounds and the different forage crops be grown there also.

By all means enlist practical men only who have had experience in dairying. J. FRIED SCHLAFFI, Superintendent of Feeding, Pan-American Exposition, Buffalo, N. Y.

SOME THINGS DAIRYMEN SHOULD KNOW.

Editor RURAL WORLD: First, he should know that studying his business not only makes it more profitable, but also makes it a source of pleasure.

Second, he should know how to solve the problem of keeping boys at home, and I may add, the girls also.

Third—He should know that a dairy record of each cow's milk yield will teach the dairyman how to care for and feed his cows, create an interest among milkers and enable the herdsmen to better weed out and build up.

Fourth—He should know that a heifer raised at home from a good cow and sire is worth two he could go out and buy.

Fifth—He should know the chemical composition of his farm crops, and also of the standard dairy foods on the market, so he can buy understandingly.

Sixth—He should know that bodily comfort is essential to profitable milk yield. Fly-plagued cows will not yield a full flow, neither will they in a shadeless pasture or a cold barn. Ice water and stagnant water are to be avoided, as they affect both yield and quality of the milk.

Seventh—He should know that 50 per cent of the value of his corn crop is in the stalk and that the silo is the most economical means for preserving his corn crop. An acre of good corn will furnish a succulent food supply for a mature cow 365 days in the year.

Eighth—He should know that dairy conventions and farmers' institutes are for his special benefit, and he should attend as many as possible.

Ninth—He should know that the RURAL WORLD has a dairy page well conducted, and every issue of the journal has help for the reading, thinking dairyman and farmer.

Tenth—If he is so fortunate as to own a farm in Missouri he should know that his state is especially adapted to dairying, and has in the past five years made more progress along that line than any other state we know of.

Warren Co., Ill. BUFF JERSEY.

FROM CASS COUNTY, MO.

Editor RURAL WORLD: Our creamery was in a flourishing condition when the drought struck us. Our dairy receipts, which were about 7,000 pounds, have decreased about 3,000 pounds, a loss of not quite one-third, which seems remarkable considering the weather we are enduring. I use the word "flourishing" in a comparative sense. When I took charge of the creamery a year ago last March the receipts of milk were about 2,500 to 3,000 pounds every other day.

Wishing you and the RURAL WORLD abundant success, I am, very truly, Garden City, Mo. C. S. STEVENS.

In the west there are people who are dissatisfied because compelled to sell milk by the Babcock test. In the east are people who refuse to sell milk if they are not paid for it according to the test. It is a hard proposition to undertake to deal out perfect satisfaction to all people.

Catarrrh

Is a constitutional disease.

It originates in a scrofulous condition of the blood and depends on that condition. It often causes headache and dizziness, impairs the taste, smell and hearing, affects the vocal organs, disturbs the stomach. It is always radically and permanently cured by the blood-purifying, alterative and tonic action of

Hood's Sarsaparilla

This great medicine has wrought the most wonderful cures of all diseases depending on scrofula or the scrofulous habit.

Hood's Pills are the best cathartic.

THE PROPER CARE OF MILK.

(From the April Bulletin of the Missouri State Board of Agriculture.)

After securing the best cow possible, and having fed her in the best and most economical manner known, the next step is to take proper care of the milk. The value of milk depends largely on the care it receives, as well as the amount of fat which it contains. Every dairyman knows that the method of handling the milk within a few hours after it is drawn has a great influence on its quality and the quality of the products made from it. One batch of impure milk delivered to a creamery or cheese factory will easily spoil the entire product for that day, and work a great injustice to the other patrons. On a large proportion of dairy farms many of the fundamental principles which should be observed in producing pure milk are entirely overlooked. The farmer must understand something of the changes which take place in milk after it is drawn and the conditions which affect its purity, in order to improve these conditions.

BACTERIA.—The changes which occur in milk such as souring, are caused by minute vegetable germs or micro-organisms called bacteria. These little germs consist of single living cells of different shapes and sizes, and are so small that they can be seen only by the aid of a microscope—several million being able to collect in one drop of milk or water. Under favorable conditions, these germs multiply very rapidly, one parent germ being able to increase in a few hours to hundreds of thousands.

CONDITIONS OF GROWTH.—The conditions essential for their growth are, first, food—organic or animal matter of some kind; second, heat, the best temperatures for their growth being between 80 degrees and 100 degrees. At a temperature of 90 degrees they grow most rapidly. Third, bacteria require moisture, and the best in weak light.

The chief agents therefore which may be used to combat bacteria are the opposites of these, viz.: lack of food, low or high temperatures, dryness and plenty of strong sunlight. Most bacteria are unable to grow at temperatures near 50 degrees or below, and nearly all of them are killed by temperatures as high as 180 degrees.

DISTRIBUTION.—Bacteria are enormously abundant through all nature—in the air, the soil, dust, water, and especially in animal matter and the manure and litter of a stable and barnyard. Milk is eminently adapted to the growth of bacteria on account of the food material which it contains, its warmth and liquid condition, and here these germs find a very paradise and soon increase to immense numbers.

KINDS OF BACTERIA IN MILK.—Something over 200 kinds of bacteria have been found in milk. The farmer should not gain the impression, however, that all of these species are injurious; some of them are very beneficial, and in fact some are necessary to dairy practice. Others produce undesirable changes, and are very harmful. Some are practically neutral, producing neither benefit nor injury. If it were not for the beneficial bacteria, for example, those which produce ripeness or sourness in cream and flavor in butter, our present methods of dairying would be impossible. But we must keep even these under control, and must avoid or destroy the harmful germs, especially any which carry such diseases as tuberculosis, cholera, typhoid fever, etc.

The care of milk on the farm resolves itself then largely into a question of how to avoid and suppress bacteria.

HOW BACTERIA GET INTO MILK.—The principal methods are, dirt from the animal or stable; udder, teats, and udder; and methods of milking; the fore milk or first milk; general atmospheric conditions.

The largest quantities of germs get into the milk during the process of milking or during the short time after it is drawn from the cow until it leaves the stable. This may be said to be the critical stage. All the parties of skin, hair, dirt, or manure which fall from the body of the cow carry germs; the manure-laden air of the stable carries thousands of them into the milk every moment it is exposed. Dirty or improper dairy utensils are the next greatest source of contamination. The dirt may not be prominent, but is always present in open cracks, seams, or joints of the pails and cans. Unless cleaned with special care, such places soon become filled with foul and decomposing scum containing bacteria in millions. A rusty spot on the tin often spoils with its germs more milk than a new vessel would cost. All the joints and seams of utensils, both inside and out, should be filled evenly with solder, to even the lodging places for milk and germs. Wooden pails are no longer tolerated in dairy work, as it is almost impossible to keep them clean.

Untidiness of milkers is another danger which should be inexcusable. On some farms milking seems to be regarded as dirty work, and the milkers prepare for it accordingly; they will brush the hands and clothes, but the stable apron, then proceed to milk in the same apparel. Dust falls from the shoulders and sleeves into the milk, and the hands and finger nails of the milker often help to produce dirt.

The fore milk, or first stream from each teat, contains large numbers of bacteria which force their way through the opening into the milk between the teats, and into the milk between the teats, and into the milk between the teats.

C. L. WILLOUGHBY.

Columbia, Mo.

(To be continued.)

BUTTER OUTPUT.—It is reported that the annual output of butter in the United States has now reached the grand total of 1,400,000,000 pounds, which seems at first glance an aggravated case of overproduction; but when the amount is divided among our population it gives each one less than 15 1/2 pounds for a whole year, or less than 7-9 of an ounce a day. If everybody is able to eat as much butter as he wants, then we are among the lightest eaters of butter of the so-called civilized countries, and instead of trying to build up a foreign demand for butter we better try to enlarge the appetite of our own people for that product.

Can bad odors which get into a cow's milk through her mouth in the shape of rank food be "aerated" out of it? If the makers of aerators can show that their machines can drive out the evil odors what a boom they will have!

The dairy farmer should own the best calves to weaning cows, hire the best hands and make the best profit.

Keep the calves in clean box stalls. Hang sacking over the windows. This will slightly darken the stable and the flies will not torment the calves.

WEEK'S WORK IN MODEL DAIRY

At the Pan-American Exposition, for the Week Ending July 16.

SHORTHORN.

Name of Cow.	Milk.	Per cent of Butter.	Amount of Butter.	Value at 25c.	Profit.	Cost of Feed.
14th Princess of Thule.....	226.0	3.3	10.10	\$2.53	\$1.25	\$1.28
Daisy D.....	200.7	3.2	8.63	\$2.17	1.24	.98
Miss Molly.....	266.7	6.6	11.29	\$2.83	1.25	1.57
Queen Bess.....	235.2	3.3	10.51	\$2.63	1.25	1.38
Rose Third.....	200.5	3.45	10.57	\$2.64	1.25	1.39
Total.....	1,229.1	.....	51.15	\$12.89	\$6.24	\$6.56

HOLSTEIN.

Name of Cow.	Milk.	Per cent of Butter.	Amount of Butter.	Value at 25c.	Profit.	Cost of Feed.
Meg Abernethy.....	267.2	3.1	11.24	\$2.81	\$1.24	\$1.57
Teddy.....	297.1	3.2	11.18	\$2.80	1.54	1.55
Inka Mercedes.....	301.0	3.2	11.33	\$2.83	1.18	1.65
Heida Wayne Aggie.....	297.2	3.3	11.28	\$2.80	1.18	1.62
Beauty of Norval.....	306.2	3.4	11.33	\$2.86	1.24	1.81
Total.....	1,511.7	.....	57.25	\$14.32	\$6.08	\$8.24

AYRSHIRE.

Name of Cow.	Milk.	Per cent of Butter.	Amount of Butter.	Value at 25c.	Profit.	Cost of Feed.
Kirsty Wallace.....	267.4	3.6	10.47	\$2.62	\$1.97	\$1.65
Lady Florio.....	268.5	3.35	10.56	\$2.65	.87	1.78
Betsy.....	272.8	3.6	11.55	\$2.89	.96	1.94
Alice Second.....	238.9	4.0	11.28	\$2.81	.94	1.87
Pearl.....	246.1	3.8	11.00	\$2.75	.96	1.80
Total.....	1,273.6	.....	54.88	\$13.72	\$4.68	\$9.04

JERSEYS.

Name of Cow.	Milk.	Per cent of Butter.	Amount of Butter.	Value at 25c.	Profit.	Cost of Feed.
Gipsy.....	217.9	4.6	11.79	\$2.95	\$1.11	\$1.84
Primrose Pinks.....	199.9	5.6	12.14	\$3.04	1.05	2.16
Queen May.....	224.9	4.9	12.17	\$3.04	1.03	2.01
Resina.....	221.9	4.0	10.44	\$2.61	1.04	1.87
Mossy.....	232.4	4.0	10.33	\$2.73	1.12	1.61
Total.....	1,092.0	.....	55.17	\$14.54	\$5.35	\$9.19

GUERNSEYS.

Name of Cow.	Milk.	Per cent of Butter.	Amount of Butter.	Value at 25c.	Profit.	Cost of Feed.
Vegla.....	201.0	4.45	10.52	\$2.63	\$1.56	\$1.68
Cassiopeia.....	261.2	4.0	12.29	\$3.07	1.08	1.99
Mary Marshall.....	182.0	4.3	9.20	\$2.30	.98	1.37
Medora Fern.....	229.3	4.45	12.00	\$3.00	1.07	1.59
Proctor of Paxtang.....	1,100.3	.....	57.88	\$14.47	\$5.13	\$9.34

BROWN SWISS.

Name of Cow.	Milk.	Per cent of Butter.	Amount of Butter.	Value at 25c.	Profit.	Cost of Feed.
Lucy.....	239.0	3.35	9.41	\$2.35	\$1.13	\$1.22
Nicola.....	256.8	3.2	9.66	\$2.42	1.08	1.34
Eliza.....	264.0	3.45	10.71	\$2.68	1.10	1.74
Belle T.....	235.5	3.6	10.68	\$2.67	1.06	1.74
Hope of Minnesota.....	232.2	3.6	10.68	\$2.67	1.06	1.74
Total.....	1,347.5	.....	51.54	\$12.89	\$5.39	\$7.50

RED POLLS.

Name of Cow.	Milk.	Per cent of Butter.	Amount of Butter.	Value at 25c.	Profit.	Cost of Feed.
Tryste.....	214.6	3.6	9.08	\$2.27	\$1.92	\$1.35
Easter.....	225.2	3.6	9.53	\$2.38	.96	1.42
May Flower.....	248.7	4.2	12.28	\$3.07	1.02	2.05
Susie.....	247.7	3.7	10.78	\$2.70	.99	1.71
Flora.....	156.5	4.0	9.20	\$2.30	.90	1.31
Total.....	1,131.7	.....	50.87	\$12.72	\$4.88	\$7.84

POLLED JERSEYS.

Name of Cow.	Milk.	Per cent of Butter.	Amount of Butter.	Value at 25c.	Profit.	Cost of Feed.
Phyllis.....	164.6	4.4	8.52	\$2.13	\$1.73	\$1.40
Prides Favorite.....	183.3	4.4	9.66	\$2.42	1.74	1.63
Queen.....	140.6	6.1	10.09	\$2.52	.75	1.77
Justina.....	98.0	4.4	5.07	\$1.27	.44	.83
Ora.....	227.7	4.0	10.71	\$2.68	\$1.35	1.85
Total.....	814.2	.....	43.85	\$10.97	\$3.49	\$7.48

DUPH BELTED.

Name of Cow.	Milk.	Per cent of Butter.	Amount of Butter.	Value at 25c.	Profit.	Cost of Feed.
Alberta.....	166.3	2.9	5.67	\$1.42	\$1.97	\$1.45
Madeline.....	239.5	3.3	9.29	\$2.32	1.09	1.22
Belle of Warwick.....	246.8	4.0	11.61	\$2.90	1.00	1.51
Marietta.....	194.4	2.75	6.28	\$1.57	1.04	.86
Holland Creamery.....	219.2	3.1	7.90	\$2.00	1.02	.98
Total.....	1,066.2	.....	40.84	\$10.21	\$5.21	\$5.00

FRENCH CANADIAN.

Name of Cow.	Milk.	Per cent of Butter.	Amount of Butter.	Value at 25c.	Profit.	Cost of Feed.
Lena Florio.....	255.1	3.8	10.00	\$2.52	\$1.92	\$1.60
Rover.....	206.4	4.0	9.71	\$2.43	.92	1.51
Densie Champlone.....	222.3	3.3	8.63	\$2.16	.76	1.40
Luna.....	209.6	3.5	8.53	\$2.16	.92	1.24
La Pouchette.....	164.6	3.3	6.89	\$1.60	.81	.79
Total.....	1,058.0	.....	43.42	\$10.87	\$4.33	\$6.54

REPORT OF THE MODEL DAIRY AT THE PAN-AMERICAN EXPOSITION, GIVING TOTALS OF EACH HERD COMPLETE FROM THE COMMENCEMENT OF THE TEST MAY 1, UP TO AND INCLUDING THE WEEK ENDING JULY 16, 1901.

Name of Cow.

Name of Cow.	Milk.	Per cent of Butter.	Amount of Butter.	Value at 25c.	Profit.	Cost of Feed.
Shorthorn.....	15,765.9	616.65	\$134.16	\$69.78	\$4.38	
Holstein.....	18,506.6	670.19	\$167.50	\$7.34	100.16	
Ayrshire.....	1,654.2	687.32	\$171.51	\$3.63	108.28	
Jersey.....	12,997.7	662.63	\$165.68	\$1.37	104.31	
Guernsey.....	12,719.9	698.99	\$174.80	\$2.58	111.94	
Brown Swiss.....	15,425.9	624.44	\$158.00	\$9.47	88.62	
Red Polls.....	14,301.1	648.50	\$162.18	\$4.25	97.36	
Polled Jerseys.....	9,855.5	516.99	\$129.17	\$5.57	79.00	
Dutch Belted.....	11,240.2	429.60	\$107.52	\$8.31	49.31	
French Canadian.....	12,330.6	537.33	\$134.42	\$5.25	79.07	

SKIM-MILK CALVES IN THE FEED LOT.

Feeders find that the average skim-milk calf does not make profitable gains in the feed lot and will not buy him. Farmers find that the difference in price between an ordinary skim-milk calf and one that has run with the cow is frequently greater than the profits made from milking, and they drop dairy work.

The Kansas Experiment Station during the past winter fattened 150 head of calves for baby beef. These were divided into nine lots—one lot of ten had been raised by hand with skim milk, and another lot of ten had run with their dams in small pastures until weaning. Both lots were put in fattening yards at weaning and were fed for seven months on alfalfa hay and corn. The results are as follows:

Average gain per head, pounds: Calves raised with dam, 45; fed for 100 pounds gain, corn, 45; alfalfa, 42. Average gain per head, pounds, skim-milk calves, 40; fed for 100 pounds gain, corn, 43; alfalfa, 46.

Corn cost 40 cents a bushel, and alfalfa hay \$3 a ton, making the cost of each 100 pounds gain \$5.25 for calves raised with their dams and \$4.88 for the skim-milk calves. The calves when fattened were shipped to Kansas City, the steers in each lot bringing \$5.40 per hundred, and the heifers \$5.15. The packers paid the same price for the fattened skim-milk calves that they did for the others. In this trial, the skim-milk calves made the greater gain, gains at the least cost, and made the most profit.

We attribute the good showing made by the skim-milk calves to the fact that at weaning time they were already on grain feed; they did not worry at loss of their dams as did the other calves, and they were perfectly tame.

The skim-milk calves were fed until weaning on sterilized skim-milk with a grain ration composed of equal parts of corn and Kaffir corn, with all the alfalfa hay they would eat. They were fed in this way twenty-two weeks and made an average daily gain of one and a half pounds per calf. The feed to raise these calves to weaning cost \$5.57 per head. As the results show, they were in good condition for feeding when weaned and the experiment shows strongly the good feeding qualities of the skim-milk calf and the profits that can be made from it.

DANISH BUTTER.

A correspondent of the Chicago "Record-Herald" writes from Copenhagen, Denmark, as follows:

The butter of Denmark is considered superior to that of all other countries. It brings the highest price in fancy markets, and where luxuries are sold. In South America, South Africa, in the East and West Indies, in India, Egypt and in tropical countries generally it is used by epicures, who pay \$1 a pound for it in tins of one, two and three pounds weight. No other country has been able to produce butter that will stand changes of climate so well. In Holland and Sweden attempts are made to compete with the Danish dairymen, but the butter from those countries is worth only half as much and does not keep half as well, while the efforts of dairymen in the United States have practically failed, with a few isolated exceptions. There is one reason why the Danes, however, produce butter that stands the tropic heat so well, and that is the fact that they use a comparatively well, and will melt and solidify as it passes from a colder to a warmer and then to a colder climate, like the butter made in Denmark.

Live Stock

DATE CLAIMS FOR LIVE STOCK SALES.

Oct. 2-E. S. Donahay, Newton, Iowa. Shorthorns.
Oct. 2-F. M. & O. B. Cain and Jas. N. Vinger & Sons, Overburg, Mo., at Kirksville, Mo. Shorthorns.
Oct. 2-A. Alexander and R. G. Robb & Son, Morning Sun, Iowa. Shorthorns.
Nov. 5-B. C. Cowan, New Point, Mo., and W. T. & H. R. Clay, Plattsburg, Mo., at Kansas City. Shorthorns.
Nov. 12-Purdy Bros., Harris, Mo., and D. L. Dowdy & Co., Arrington, Kas., at Kansas City. Shorthorns.
Dec. 10, 11, 12 and 13-Kirk B. Armour and Jas. A. Funkhouser, at Kansas City. Hereford cattle.
Dec. 12-C. D. Bellows, Maryville, Mo., at South Omaha. Shorthorns.
January 28 to 31, 1901-Bothams' annual Criterion Sale, at Kansas City.
Jan. 14, 15 and 16-Cornish & Patten, Osborn, Mo., and others, at Kansas City. Mo. Hereford cattle.
Feb. 11-12-Redhead Anstey, Boyles and others, at South Omaha. Neb. Hereford cattle.
March 6-7-I. M. Forbes & Son, Henry, Ill.; J. F. Prather, Williams, Ill.; S. E. Prather & Son, Springfield, Ill.; C. B. Dustin, Champaign, Ill.; T. J. Wornall, Mosby, Mo., and others, at Chicago, Ill. Shorthorns.
March 11-W. F. Nichols, West Liberty, Iowa. Shorthorns.
June 10-C. E. McLane, Danville, Ind., at Indianapolis. Double Standard Polled Durham.
The "National Hereford Exchange" under management of T. F. B. Bothams, as follows:
Nov. 25, 1901-East St. Louis.
March 25-27, 1902-Chicago.
April 23-24, 1902-Kansas City.
May 27-28, 1902-Omaha.
June 24-26, 1902-Chicago.

POLAND CHINAS.

Aug. 6-W. R. Lovelace, Gibson City, Ill.
Aug. 7-E. H. Warr, Douglas, Ill.
Aug. 15, 1901-Rainey Miller, Champaign, Ill. Poland Chinas.
Aug. 22-C. N. Sutter, Minier, Ill.
Aug. 23-J. A. Rosenberry, Goodwine, Ill.
Sept. 4-Dan Hallowell, Farmer City, Ill.
Sept. 11-T. R. Wilson, Morning Sun, Ia.
Sept. 12-J. H. McMillan, Decatur, Ill.
Sept. 13-D. A. Good, Beardsville, Ill.
Sept. 20-A. L. Busey, Sidney, Ill.
Sept. 21-Price & Claybaugh, Bigsby, Ill.
Oct. 4-J. W. Funk, Hayworth, Ill.
Sale at Ill. State Fair Grounds, Springfield, Ill.
Oct. 7-11-Kansas City Show and Sale.
Oct. 12-H. P. Williams, Russellville, Mo.
Oct. 17, 18, 19, 21-American Angus Cattle Show and Sale, W. F. McIntire, Sec. and Manager, Stock Yards, Kansas City, Mo.
Oct. 21-G. E. Leslie, Memphis, Mo.
Oct. 22-E. E. Asline, Oak Grove, Mo.
Oct. 23-T. Robinson, Bates City, Mo.
Oct. 24-F. H. Scholer, Rockport, Mo.
Oct. 25-W. N. Winn & Son, Kansas City, Mo.
Oct. 26-T. H. Martin, Kansas City, Mo.
Oct. 27-C. E. E. Leslie, Memphis, Mo.
Nov. 4-J. W. Williams, Clinton, Mo.
Nov. 5-H. O. Minnie, Edinburg, Ill.
Nov. 6-C. E. Brown, Springfield, Ill.
Nov. 7-D. J. Walters, Kunkler, Ill.
Nov. 8-W. R. Lovelace, Gibson City, Ill.
Nov. 12-A. G. Woodard, Danville, Ill.
Nov. 13-E. H. Warr, Douglas, Ill.
Nov. 14-E. L. Johnson, Oneida, Ill.
Nov. 15-W. J. McKibben, Garden Prairie, Ill.
Nov. 19-Victor Wiley, Fuller, Ill.
Nov. 20-H. G. Davis, Woodland, Ill.
Nov. 22-J. B. Fink, Herborn, Ill.

ABERDEEN ANGUS CATTLE.
Oct. 4-Combination sale, W. C. McGavock, mgr., Springfield, Ill.
Oct. 17-18-National sale, W. C. McGavock, mgr., Kansas City.
Dec. 3-6-International sale, W. C. McGavock, mgr., Chicago.
Feb. 4-6-Combination sale, W. C. McGavock, mgr., Chicago.
April 10-11-Combination sale, W. C. McGavock, mgr., Kansas City.
June 10-11-Combination sale, W. C. McGavock, mgr., Chicago.

STOCK IN THE DROUTH SECTION.

The caring for stock in the drouth-stricken section is a problem that should elicit the interest of all. Where water is scarce or not to be had the only recourse is to move or sell the stock, but there are very few farms in Missouri on which a supply of stock water cannot be procured.

Farmers need to exercise the most judicious care and consider the future. It is indeed a serious matter to part with herds that have taken years to get together, or for a young farmer who has just secured a start in good cattle to sell them because he knows he hasn't feed for them and estimates that prices for feed will range so high that the stock will only be carried at a dead loss. The best farmers in any township should confer regarding this phase of the drouth and co-operate to retain, if possible, their herds. Stock farming-dairying, and feeding live stock-is conceded to be the most profitable line of farming, as the farmer can sell his products in the most condensed form, thereby saving in cost of transportation, and at the same time he has the manure for increasing soil fertility.

Wisdom must be exercised in the selection of cattle that are to be kept on the farm. As young beef is what the market demands, and the kind that can be produced at the least cost per pound, it will be folly to keep feeders that were to be marketed at a fall or winter. Dispose of them even if it seems at great sacrifice unless you are prepared to feed them at paying prices. But don't part with the calves and yearlings. They don't require such heavy feeding, if given good shelter, and then it is possible to shelter more of them in a given space than of the large steers.

Then don't fail to reserve every good cow. The estimates made previous to the drouth were that the supply of beef cattle was not keeping pace with our increased population and export trade. Give the cows the utmost care possible. Make provision now for sheltering them from cold, snow and chilling rains. Such advice when the mercury is over 100 seems "previous," but when stock is to be put on short rations the deficiency must be supplied by care and shelter. Sometimes boards will save heat that would have to be secured at the expense of extra feed. The economy of good shelter should have the most careful consideration. If the matter is taken in hand in time, inexpensive sheds can be built that will make stock comfortable. The farmer who thinks and acts will be the one who will prosper in the present situation. But by all means devise plans which will enable you to save the best of your young stock.

Many farmers who have heretofore been content with grading up their farm stock for market are now buying foundation animals for pure bred herds, studs and flocks. In doing this, look well to the pedigree and individual merit, buy the kind you want to sell, better start in on a small scale with the best.

BOVINE TUBERCULOSIS.

Dr. Koch's Recent Discovery.

The recent announcement by Dr. Koch, the famous bacteriologist, that bovine tuberculosis (consumption) was not communicable to man has been received with great and widespread interest. By many the statement is accepted without question. If it be true it is a matter of great importance to the human family, and especially to cattle raisers and dairymen. But others are not yet ready to accept the conclusion that seems to have been reached. Among these is Charles Greenwell, M. R. C. V. S., Chairman Sanitary Committee National Live Stock Association, who writes to President Springer, in part, as follows:

"The matter of one of the most important to the cattle industry and to the public, and the evidence for and against should be very carefully weighed and final judgment suspended until, as Dr. Koch himself so justly recommends, a corroboration of his results have been obtained by other observers. It is, however, further more important to accurately consider the true meaning of what Dr. Koch actually has discovered, and the important aspects of the question still undetermined by him. Equally as erroneous conclusions may be drawn as was the case in the discovery of tuberculin, and the fact must not be lost sight of that however expert and clever a man may be as a discoverer, it rarely happens that he is equally clever at drawing logical and correct conclusions from his discoveries."

"The facts are these: 'Dr. Koch has failed in 19 instances to convey human tuberculosis to bovines after the most careful attempts to do so, whereas in no instance has he failed to convey bovine tuberculosis to bovines in a similar manner.'

"He has not attempted to convey bovine tuberculosis to human beings, nor human tuberculosis of any kind to human beings. 'Although there is evidence of a very suspicious nature of the conveyance of human tuberculosis from man to man, and from the bovine to man, there is no absolute proof of one being more than the other. That is to say, there is equally as much reason to doubt the contagious nature of the disease as between man and man as there is between bovine and man. 'The only positive result which can fairly be claimed by Dr. Koch is that bovine tuberculosis is communicable to bovines. 'That it is communicable to other animals has been positively demonstrated by other observers, and human tuberculosis itself has been demonstrated to be communicable to many of the lower animals. 'Dr. Koch now proves, after careful tests, that the human form of the disease is not communicable to the bovine only. 'Thus far and no further do his positive results go. 'He advances no proof that bovine tuberculosis is not communicable to man, but bases his opinion that it is harmless on the fact that if it were not so we should expect more cases of intestinal tuberculosis in man. This is a decidedly weak deduction when the observed ill effects of the consumption of tuberculous milk by infants have been noted to be an obstinate and frequently fatal diarrhoea, and when it is further considered that by far the greatest number of deaths among calves suckled by tubercular dams is caused by infection of the intestinal and mesenteric glands. 'It is no safe deduction to conclude that because Dr. Koch failed to convey human tuberculosis to any of the nineteen cattle experimented upon, and at the same time he could convey the bovine form of the disease in all instances, that therefore the bovine disease is harmless to the human being. Particularly is this deduction unsafe when we know that the bovine form, whether it be due to the lower vitality of the animal or to the increased virulence of the germ, however much more rapid in its fatal course than the human. 'Another very important feature is the fact that Dr. Koch's experiments decide nothing as to the effect which the secretions of the bacilli, commonly called toxins, may have on susceptible subjects. The toxins derived from the bacilli of tuberculosis, whether they emanate from human or bovine, have well defined and poisonous effects on subjects which are either affected in a minor degree with the disease or are victims to what is commonly known to scientists as the tubercular diathesis. This latter is a condition not well understood, it is true, but which renders victims susceptible to the action of the bacillus, and by some eminent men held to be more important in the cause of the disease than the germ itself. The importance of the effect which the toxins of tuberculous milk may have on the human infant, or upon persons already impregnated with the toxins of their own tuberculous milk, can not be overestimated, and it is quite possible that the addition of certain and non-regulated quantities of such toxins to those they already are carrying may result in serious detriment and death. 'Therefore, if the well-known fatality of consumptive diarrhoea in children is accounted for by the existence of bovine toxins in tuberculous milk, and if such toxins are sufficient to cause death it will make no practical difference whether the victim dies from toxins of a germ or from toxins of a toxin itself, or from a germ fruitful in its multiplication. 'In parasitic life we see many instances in which those of the same family are unable to perpetuate themselves on animals of a different species, but at the same time, during their lifetime, infect their respective hosts with their poisonous secretions. 'Without being an alarmist, I think it is necessary to sound a note of warning that conclusions so much hoped for should not too readily be accepted, and that as cattlemen, or dairymen, we certainly must not yet congratulate ourselves that the necessity of restrictions and repressive measures against bovine tuberculosis is over, nor that this disease in cattle has no terrors for the human being."

CATTLE FROM CHICAGO MARKET.
Kansas City, Mo., July 26-The Schwartzschild & Sulzberger Packing company will receive a consignment of export cattle to-morrow from the Chicago market, to be slaughtered at the Kansas City plant. The representatives of the company declare that prices on the local market have been higher than at Chicago and that they were able to buy there and ship here to an advantage at the present time. Local supplies of fat cattle this week have been small, notwithstanding that the week's total is the heaviest on record. The bulk of the receipts are stock cattle forced on the market by reason of the dry weather.

ABOUT ALFALFA AS A FEED.

The chemical department of the Kansas Experiment Station has published the results of a series of digestion experiments with alfalfa. The results apply, of course, to all the regions where alfalfa is grown.

In this experiment hay was used which was cut when in full bloom and was fed to a three-year-old grade Hereford steer. The result of the analysis shows that the air-dry hay contained digestible nutrients as follows: Crude protein, 16.3 per cent; amides, 2.57 per cent; fat, 0.99 per cent; crude fiber, 15.99 per cent; carbohydrates, 23.18 per cent; total digestible nutrients, 55.29 per cent. Let us compare these last figures with those representing the total digestible nutrients contained in some of our most common feeds used for dry roughage. Millet contains 57.6 per cent; oat hay 52.3 per cent; orchard grass hay, 48.3 per cent; timothy hay, 48 per cent; prairie hay, 46.7 per cent; sorghum hay, 44.3 per cent; red clover hay, 43.9 per cent; oat straw, 42.9 per cent; wheat straw, 33.2 per cent; and corn-fodder, 35.8 per cent. We find that only one of the ten feeds named is equal to or exceeds alfalfa in its total content of digestible nutrients, while the larger part of them are far below it. This is not a fair measure of its feeding value, however, unless we also take into account the composition of these nutrients. As a rule it costs much more to produce feeds rich in protein than it does those rich in carbohydrates, and, consequently, of two feeds containing an equal amount of digestible nutrients, one containing the most protein is the most valuable. Comparing alfalfa in this respect with the above-named feeds, we find that it ranks far ahead of the richest of them. One hundred pounds of alfalfa hay contain 11.3 pounds more digestible matter than the same amount of red clover hay, and 1 1/2 times as much protein; 3 1/2 times as much as oat straw, and 13 times as much as wheat straw. In feeding value, alfalfa hay not only ranks high above all other feeds used for roughage, but it is well up among the more concentrated feeds. One hundred pounds of it contains 3.3 pounds more of total digestible nutrients than wheat bran, and almost as much protein. It is richer in digestible protein than wheat, corn, oats, rye, barley, Kaffir corn or sorghum hay.

Its digestible nutrients have a nutritive ratio of 1 to 4.4. There are only a few feeds, such as wheat bran, linseed meal, cottonseed meal, and soy-beans, that furnish as narrow a nutritive ratio as this. Alfalfa hay, therefore, is an ideal feed to use in balanced rations, and is especially valuable to combine with corn as a ration for fattening steers, since it furnishes all the roughage necessary, and is also a cheap source of protein. It is an ideal dairy feed, furnishing almost the exact nutritive ratio required for the highest yields of milk. Its value as a feed for hogs has been shown in results previously published by this station.

LUMP JAW.
A Kansas correspondent writes asking us to describe the government treatment for lump jaw in cattle, says the "Hornet." There is no "government treatment" for this disease. The treatment desired by the inquirer is probably the iodide of potassium treatment, which originated in Europe and has been in successful use in this country for about eight or ten years past. It consists in giving doses of iodide of potassium, proportioned to the size of the animal, daily or twice a day. The dose should never be more than one-fourth of a dram daily, for each hundred pounds of live weight, and if administered twice a day half of this amount will be sufficient for each dose. If the iodine is best administered dissolved in a small amount of water given as a drench, or it may be dissolved in a small amount of drinking water, taking care that the amount of water with which it is mingled shall never be more than the animal will drink up clean. After giving full doses for from six to ten days, symptoms of iodism will appear in the animal. These are a discharge of water from the eyes, a flow of mucus from the nose and a peeling off, in scales or flakes, of the superficial layer of the skin over the body. When these symptoms are observed the medicine should be stopped for three or four days and then resumed. Cases in which these symptoms are most plainly shown seem to recover most rapidly. The treatment should be kept up in this way at intervals for about six weeks, or until the animals are sufficiently improved to warrant its discontinuance. After the lump has shrunk to one-third its original size the medicine may be discontinued, as the absorption that has been set up will then go on, and the lump will disappear without further treatment. It usually requires from a half a pound to a pound of iodide of potassium to effect a cure, and it should be bought in these larger quantities, instead of in a small way, as it will come much cheaper when purchased in this way.

STOCK NOTES.
W. H. H. STEPHENS, Princeton, Mo., is offering three young Shorthorn bulls at very low prices if taken soon; also some high-class Poland-China hogs. Look up his advertisement.

SCOTT & MARCH, the Hereford breeders of Belton, Mo., have one of the largest, as well as one of the best herds, in this country, and can furnish high-class bulls or cows at such prices that the animal will make the buyer money. If you doubt it, try them.

GEO. BOWTHWELL, Nettleton, Mo., one of the leading breeders of Shorthorn cattle in the state, has an imported bull, and several Scotch and Scotch topped bulls of most excellent quality for sale, at present, that ought to be seen by all wanting that kind.

GUDELL & SIMPSON, Independence, Mo., are known the world over, wherever good Herefords are known. This firm has produced and placed at the head of herds as many good bulls as any firm in the world. It is still producing good cattle and selling them worth the money. The more of their cattle you get the more you will want.

FEEDING WHEAT.

The almost unprecedented drouth of the present season, which bids fair to cut the corn crop down to next to nothing, but which began late enough to allow the production of a large crop of wheat, is turning the attention of farmers to the possibility of feeding wheat in the place of corn. In previous years of similar conditions thousands of bushels of wheat were profitably fed. Secretary Coburn, in his report for the quarter ending September 30, 1894, included statements from a large number of farmers upon feeding wheat. These varied greatly in tenor, some regarding corn as better than wheat, others wheat as much better than corn. These views were necessarily based upon general impressions rather than exact comparisons. Experiments in feeding wheat to swine were performed at the Kansas Experiment Station, and at the experiment stations of some other states. Experiments in feeding other stock have not been made at the Kansas Station, and but few at others, but hundreds of farmers have fed it to all kinds of farm animals. The following table, taken from Henry's "Feed and Feeding," presents a compilation of the results obtained with swine at certain stations:

Station.	Average weight at beginning.	Feed eaten.	Feed for 100 pounds gain.
	Feed consumed.	Feed consumed.	Feed consumed.
	lbs.	lbs.	lbs.
Kansas	152	163	77
Ohio	136	127	70
South Dakota	96	109	69
Wisconsin	243	247	126
Wisconsin	247	247	126

It will be seen that the results obtained were, on the average, practically identical. In other words, the wheat and corn fed in the form of meal of equal value for feeding. The Kansas results are given in Bulletin No. 83, which contains some others in addition to the one included in the table. A limited number of copies of this bulletin are still available for distribution.

In feeding wheat satisfactorily, a number of considerations must be kept in view. The kernels being much smaller than those of corn, there is much more

danger of their escaping mastication and passing out undigested. Many farmers who regarded it as unprofitable to feed wheat whole found on crushing or grinding it that it difficulty disappeared. It is especially necessary when fed to steers or milch cows. In animals with smaller mouths there is less waste than with cattle, and some have observed a positive advantage with sheep in feeding it whole. This was due, however, to the greater consumption of whole grain than ground. Ground wheat has an important disadvantage in feeding, in that it is apt to form a gummy mass, which adheres to the teeth, making it difficult and disagreeable to handle by the animal. This fault has been the source of some of the poor results in feeding it, and is best obviated by feeding it mixed with some other grain, as corn, oats or Kaffir corn. Animals fed upon a mixture are also less liable to become cloyed than when fed on wheat alone.

In brief, the nutritive value of wheat, as shown by its composition, is greater than that of corn; it can be best utilized by feeding it ground or crushed, and mixed to a certain extent with corn, or Kaffir corn; it may be fed advantageously to horses, cattle, hogs, sheep or poultry.

In discussing the feeding value of wheat, the grain only has thus far been in mind. In this year of extreme scarcity of roughage it may not be amiss to inject a word of suggestion, that wheat straw much better than nothing, and that in all probability the farmers of the wheat belt can contribute to the needs of their less fortunate fellow citizens, and add to their own profits by preserving, baling and marketing their straw instead of burning it as usual.

J. T. WILLARD.
Agricultural Experiment Station, Manhattan, Kas.

IT PAYS TO RAISE FINE STOCK.
Mr. A. J. Bothwell, a prominent cattleman of Denver, Colorado, spent several days in this vicinity last week, and while here bought of P. E. Spelman, living north of Clark, 18 registered Hereford cows at \$300 each, one yearling bull at \$400, one aged bull at \$350, two short yearling bulls at \$100 each. The sale aggregated \$4,550.

Mr. Bothwell also bought of J. H. Canada, living north of Sturgeon, 16 head of registered cows and heifers at \$150 each, two three-year-old heifers, from Mr. Canada's son, Frank, for \$157.50 each, and one from Ernest Cottingham for \$150. Mr. Spelman's experience in raising registered Hereford cattle has been an interesting and profitable one. Commencing fourteen years ago with one four-year-old imported Hereford cow, for which he paid \$165, he has since sold of her offspring \$10,500 worth of cattle and sold six beautiful heifers and one bull calf. We doubt if the oldest citizen in our community can recall a legitimate business venture that will equal this phenomenal transaction. Mr. Spelman invested \$165 in the first cow, and in 14 years he sells of her offspring 67 times the amount of the original investment, and has left seven times as many cattle as he started with, and these are very much more valuable than the first. Mr. Spelman has left are worth \$1,000.

We doubt very much if there are many farmers who realize how easily and quickly one can grow a considerable herd of cattle from one cow. Since Mr. Spelman bought the first cow he has sold 75 head of her descendants. Add to this the seven head he still owns and we have a total of 82 head that have been produced on Mr. Spelman's farm from one cow, and besides, these 82 head do not represent all of the cow's descendants, as some of the females were disposed of long enough ago to have produced several calves. Furthermore, there have been several lost on the farm by death.

Mr. Spelman invested his \$165 in this cow with a firm faith in the future of good cattle, was never swayed by the booms and depressions through which the cattle business has passed during the last fourteen years, but kept on the even tenor of his way, disposed of the male product of his head each year, and selling a cow or heifer occasionally.

It is one of the best object lessons that has ever come under our observation regarding the profits of raising pure bred stock. The reader must not imagine that good stock means stock that is kept in barns and pampered. It has always been Mr. Spelman's custom to raise his cattle on grass and hay, never feeding them any grain, and the past winter his entire herd was kept on a few calves, was wintered exclusively on hay.

It is a well known fact in this community that P. E. Spelman had by industry and economy, acquired a reasonable share of this world's goods long before he bought this white-faced cow, but on the day of this recent sale to Mr. Bothwell, if he had had nothing else but the proceeds of this transaction, the sum was sufficient to have provided him a comfortable home and in the six head of heifers he has left on his farm, he has a strong nucleus for another fine herd.

J. H. Canada's connection with registered Hereford cows only dates back about two and one-half years. In November, 1898, he bought his first registered Hereford cow. During that fall and winter he bought 16 head of registered cows and heifers at a cost of \$1,855. In the sixteen head purchased were four cows with young calves by their sides, the calves not being counted. Since buying the sixteen cows and heifers he has sold \$1,275 worth of their produce, and in the sale to Mr. Bothwell of sixteen head he received \$75 more than his original investment, has one cow and four heifers left, and has lost four calves by death.

The editor of the "Leader" has often wondered why more of our farmers do not engage in raising registered stock. We are reliably informed that Mr. Bothwell is in Missouri to buy \$30,000 worth of registered Hereford cattle, and probably every dollar of this princely sum would have been left in this community if he could have found sufficient stock of the class wanted.—The Sturgeon, Mo., Leader.

A CURE FOR WHITE-SCOURS.
To the Gazette: Several of your subscribers have asked for a remedy for "white-scours," calf cholera and dysentery in young calves. Here is the remedy used in this part of the country: Take one-half a rennet tablet and dissolve it in three or four tablespoonfuls of tepid water; give it as a drench, and repeat in twenty-four hours, if it fails at first. Increase the dose if calf should be over one month old.

I have used it on several calves, and it has never failed to effect a cure. I had one calf too weak to get up and suck, and I had to hold it up and milk the milk into its mouth. Two doses cured it, and it is as healthy a calf as I have in my bunch. The above is a simple remedy and the only thing known here as a sure cure.

Breeders trying the recipe will oblige subscribers and the writer by giving to The Gazette the name of the calf. CHAS. L. T. WINSOM.
Larimer, Co., Col.

Gentry Bros. Cedar Vale Stock Farm

SEDALIA, MO.
Grand Duke of Haverhill 12544, assisted by Waterloo Duke of Cedar Vale 12586, heads our herd of pure Bates and Bates topped, 1700 Scotch and Scotch topped cows of the most fashionable families. Stock for sale at all times at reasonable prices. Parties sent at 1 a.m. Farm two miles out. Telephone No. 20.

Shorthorn Bulls for Sale!

Baron Thorndale 12500; Dark Roan of April 29, 1896, at \$200, or will trade him for heifers. Also 8-year bulls by Baron Thorndale and out of dams of Hazelrider and Secret; these strains have been in the herd since 1886, and are great milkers. Call on or address, L. G. JONES, Townsend, Ill.

SCOTT & MARCH, Breeders of Registered Herefords.

YOUNG STOCK FOR SALE. BELTON, MO.
Gudgell & Simpson, Independence, Mo.

HEREFORDS 600 HEAD IN HERD.

ST. LOUIS NATIONAL STOCK YARDS.

THE LIVE STOCK MARKET OF ST. LOUIS.
Located at East St. Louis, directly opposite the city of St. Louis. Shippers should see that their stock is billed directly to the

National - Stock - Yards.
C. G. KNOX, V.-Pres. C. T. JONES, Gen. Mgr. L. W. KRAKE, Asst. Gen. Mgr.

Shorthorn Cattle. Scotch, Scotch Topped, Bates and Bates Topped.

As good blood as the breed contains. Imp. Nonpareil Victor 12573, Imp. Blackwell 12534, Great Victor 12574 and Windsor Duke 1118, 11212, in service and large English Yorkshire. Young stock for sale. Come and see or address, GEO. BOWTHWELL, Nettleton, Mo.

Blackwater Shorthorns. BLACKWATER, Cooper Co., Mo.

Head backed by the Crickshank Bull, Orange Hero 12588 by Godoy. Females are of pure Scotch and pure Bates, with individual merit the standard. Young stock of both sets for sale.

ORTIZ FRUIT FARM, MEXICO.

SHORTHORN CATTLE of pure Scotch, Bates and leading American families. BEKSHIRES of leading families of the breed. English Setters and Scotch Terriers that have been winners at leading bench shows of this country. Stock of all kinds for sale. Visitors always welcome. M. B. GUTHRIE, Mexico, Mo.

SHORTHORNS, BERKSHIRES and JACKS

Shorthorn Scotch or Scotch Top and Bates mixed, Berkshires best blood in America and England. Stock of all ages and both sets for sale. Call on or address, S. H. GENTRY, SEDALIA, MO.

"BLACKLEGUE."

Pasteur Blackleg Vaccine, Single Treatment ready for use. No mixing, filtering or injecting. Applied with a needle furnished free.

Pasteur Vaccine Co., Chicago.

Branch Office: 410 Hall Building, Kansas City, Mo.

TEBO LAWN HERD OF SHORTHORNS

OWNED BY
C. M. CASEY, SHAWNEE MOUND, HENRY COUNTY, MO.

Railway Station, Clinton, Mo.

Lines of Breeding—"The Casey Mixture," Crickshanks and other Scotch cattle, Bates and Renick Rose of Sharons.

HERD BULLS—Imp. Calfy 125022, bred by Wm. Duthie; Imp. Bythe Victor 140009, bred by W. S. Mart; Imp. Gentry 125872, bred by Col. C. E. Leonard; Victor Bashful 125787, bred by J. B. Crawford & Sons; Victor Abbott, bred by T. J. Wallace & Son, and Scottish Lavender, bred by Hanna & Co.

Address all correspondence to
E. M. WILLIAMS, Manager, Shawnee Mound, Mo.

at \$1.15 to \$1.35. Good native cows and heifers sell at \$2.25 to \$4.10. Medium cows at \$2.40 to \$2.15. Fair cows \$2.25 to \$2.50. Inferior, light and old cows \$1.50 to \$2.15. The bulk of the southwest cows sold at \$2 to \$2.75, and the bulk of all the cows sold at \$2.15 to \$2.25. Canning cows sold at \$0.50 to \$2.50. Veal calves, full range, \$2 to \$5 per 100 pounds; bulk at \$2.50 to \$4.75 per 100 pounds. Heretics and yearlings sold at \$2 to \$3.50 per 100 pounds, with the bulk at \$2.50 to \$3.50, full range, \$2.25 to \$4; bulk of sales \$2.50 to \$2.90. Stocker bulls sold at \$2.25 to \$2.50, the bulk at \$2.50 to \$2.75. During the week the milkers sold at a full range of \$22.50 to \$38 per cow and calf, the bulk of sales at \$24 to \$32.50.

SOUTHERN CATTLE—Receipts were some heavier than on last week, being 32 cars more. Under light receipts Monday, the market was strong and active. Tuesday receipts were liberal and prices practically the same as Monday. Wednesday receipts were the same as Tuesday, but heavy receipts at other markets caused prices to be a shade lower. Under light receipts Friday the market closed strong and active, and prices were fully steady with last Monday. Receipts of cows, heifers and bulls have been moderate all week, and values were about the same as on last week. Receipts of calves have been heavy, and prices to-day were about steady on light weight, fat calves, but considerably lower on the heavy, half-fat calves.

During the week Texas and Indian Territory grass steers, 566 to 1,043 pounds average, sold at \$2.50 to \$4.50, the bulk at \$2.50 to \$2.75; cows and heifers at \$2.50 to \$2.75; cows and heifers at \$2.50 to \$2.75, mostly at \$2.50 to \$2.75; stags and oxen at \$2 to \$2.50; bulls at \$2.50 to \$3, and calves, 150 to 250 pounds, at \$5 to \$9 per head, with the bulk at \$2.25 to \$2.50. Some Texas steers, 967 to 985 pounds average, sold at \$4.10 to \$4.15. Arkansas and Tennessee steers, 616 to 1,025 pounds average, sold at \$2.40 to \$2.80; cows at \$1.50 to \$2.50, the bulk at \$2.25 to \$2.50; bulls at \$2.40 to \$2.40, and oxen at \$3 per 100 pounds. Mississippi steers, 757 pounds, at \$3; cows at \$1.75 to \$2.35, and bulls at \$2.75.

HOGS—Receipts for first two days light, and an advance of fully 5c was secured. Under more liberal receipts Wednesday, a decline of 5c was forced. Thursday receipts moderate, market steady. Friday receipts liberal; market on good, heavy hogs 5c lower; lights 5c to 10c lower, with a few loads of late arrivals held over. Saturday receipts were liberal for last day of the week; best hogs sold 5c lower, while others sold 5c to 10c lower, with several loads held over. We quote following prices: Butchers and packers \$5.75 to \$6; Yorkers and shippers \$5.00 to \$5.80; heavy pigs \$5 to \$5.75; light pigs \$4 to \$5; rough heavies \$3 to \$5.50.

SHEEP—Under light receipts for part of week prices advanced on both sheep and lambs, but later, when offerings became more liberal, prices declined until best lambs sold to-day at \$4.25, with a good many useful kinds bringing from \$3.25 to \$4; sheep \$3.25 to \$3.40; stockers generally \$2. Several loads are unsold, and prospects for the coming week are very uncertain.

MONDAY, JULY 29, 1901.—CATTLE—Receipts in the native division were fairly liberal for Monday, but included very

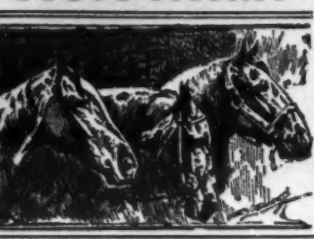
Hereford Cattle!

30 bulls and 20 heifers for sale, all registered, choicely bred. Call on or address

N. E. MOSHER & SON, Salisbury, Mo.

100-HEAD SHORTHORNS

Horseman



S. W. MO. CIRCUIT.

This Circuit opens at Holden, Johnson Co., August 6, next Tuesday, and then continues to Harrisonville, August 13; Rich Hill, August 20; Nevada, August 27; Higginsville, September 3; Sedalia State Fair, September 9. This is by far the most important Circuit in Missouri. Large fields of trotters and pacers have been entered in the various classes at all the meetings, and the races will be first-class. The severe drought has been broken by heavy rains, and the hot weather succeeded by a cooler temperature. It is to be hoped that these meetings will be largely attended.

The speed of Little Boy, 2:06½, which was an extraordinary feat years ago, to be greater than ever, and if he can continue to race without the "straps" it looks as though another 2 minute pacer is ready to get inside the charmed circle.

Columbine, dam of Antee, 2:16½; Antee, 2:19½; Coral, 2:18½; and J. C. Simpson, 2:18½, died at Palo Alto this month. She was a bay mare, 15½ hands high, foaled in 1897 and by W. W. Richmond, son of Blackbird, one of Columbia's thoroughbred daughters of Imp. Bonnie Scotland.

Advices from New York City state that "thousands of animals that escaped death during the recent extremely hot wave were affected by the burning rays of the sun and are now disabled whenever the mercury gets up above the point of summer heat. Horsemen say these horses are practically ruined for hard work in hot weather, as they will never fully recover."

From the manner in which Anacanda opened his campaign he is liable to give Joe Patchen quite a horse race when they meet at Brighton Beach August 12. Anacanda is generally esteemed, now that Star Pointer and John R. Gentry are retired, the worst rival of the renowned black stallion now before the public. The two have met three times in the past. In 1899 Joe Patchen beat Anacanda very easily at Hartford in mid-season, but late in the fall, in two three-cornered specials at Los Angeles, Cal., both won by John R. Gentry. Anacanda and the black horse beat each other in turns for second place. Since then they have never met, and their race at Brighton Beach will be their first duel single hand.

The California trotter Sue is one of the really great mares of the year. She came east without any blowing of horns to announce her coming. In the first stop at Denver she won in ordinary fashion and at the Pekin meeting she first attracted attention by trotting all her heats below 2:15, and at Davenport she took a very likely field of horses into camp, trotting in 2:15½ on a poor track so impressively that the yearling, Sue, was doubted her ability to beat 2:10 now. She is by Athalon, the first yearling to beat 2:30 in a race, and who is a grandson of Onward, out of the dam of Athalon, 2:10, while her dam is by a son of Gen. Stanton.

Dan Patch, 2:07½, was bred by D. A. Messner, Jr., Oxford, Ind., and is now five years old. He is a rugged looking brown stallion about 16½ hands high, with the best of legs and feet, is backed with a five ounce shoe all around and does not wear a boot or weight of any kind except a light pair of quarter boots. He has a bold way of going, very much like his sire, Joe Patchen, 2:03½, although not gaited like him behind. His manners are simply perfect and this fact coupled with all the other good qualities led Mr. E. McHenry, at the conclusion of a recent race, to make the following remark in answer to a question as to how he liked him. Said he: "I think he is about the best all around horse I ever drove."

Courier Journal, 2:06, the fastest of Wilkes Boy's get, died of blood poisoning, resulting from the epidemic now prevalent among horses in New England, at Jere O'Neil's stock farm, July 10. He was the property of F. K. Fitzpatrick, North Cambridge, Mass., and was valued at \$10,000. He was foaled in 1893 and as a 4-year-old made his first start at Readville, under Mr. Fitzpatrick's ownership, where he won the 2:20 pace. He then went through the grand circuit and took a record of 2:08½ at Columbus, O., shutting out several crack horses. In 1898 he figured prominently in many local meets, winning several good races. His best work was done last season, when he was driven by Jere O'Neil. Early in July Courier Journal equaled his mark of 2:08½ at Dover, N. H., when he beat such good ones as Maxine, Dan Q. and Moth Miller. His next start was at the grand circuit meeting at Readville, when he won the 2:08 class, getting a mark of 2:06½. In this race he beat Free Bond, Dan Q., Flirt and Choral. His next start was at Providence, in the following week. Here he paced one of the most sensational races ever witnessed. In the first heat, when in the lead, he picked up a stone, wrenching his forward ankle. He was just nipped out at the wire in 2:06½. He was dead lame when led to the stable after this heat and it was feared he would have to be drawn. But just here his great bulldog pluck showed itself. Although his gait was badly affected, he made the second, a dead heat, in 2:06½. He looked as if he would fall as he was led back to the stable after this second effort. Nothing daunted, he won the third heat in 2:06 and the fourth in 2:07½, thereby pacing four of the fastest consecutive heats in the grand circuit last year. In this race he defeated a good lot of horses, among them being Bonnie Direct, Free Bond, Little Boy, Democracy and Harry O.

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Patron, 2:14½, was put to death by chloroform at the Forest City Farm, Randall, O., July 12. He had been suffering with a blood disorder for several weeks and as the disease became more aggravated and the attending veterinarian decided that there was no hope for the horse's recovery, he was put to death in the humane manner mentioned. Patron was bred by J. C. McFerrin, Glenview Farm, Louisville, Ky., and was foaled June 28, 1882. His sire was Pancoast, 2:23½, the sire of 25 performers with records from 2:11 to 2:30, and 15 producing sons with 86 standard performers. Pancoast was son of Woodford Mambrino, 2:23½, and Biceps, dam of six in the 2:30 list, a daughter of Harold 413. The dam of Patron was Beatrice, the dam of Prodigious, 2:16, Patronage, the sire of Alix, 2:03½, and several producing daughters. Beatrice was by Cuyler 100, a son of Hambletonian 10, her dam being Mary Mambrino, dam of Elvira, 2:18½, and grandson of Ponce de Leon, 2:15, by Mambrino Patchen. Patron made his debut on the trotting turf in 1885 in his 2-year-old form, and all of his races were to high-wheeled sulky, being retired to the stud before the modern sulky came into use. It was to a high wheeled sulky that he trotted his memorable 3-year-old races at St. Louis and Lexington, earning the world's record of 2:19½ for a 3-year-old colt, and it was also the old style sulky that he earned the stallion championship as a 5-year-old in 1887, trotting in 2:14½, beating all of the best trotters of the day, and winning among other events the Charter Oak stake of \$10,000. He was purchased by C. F. Emery of Cleveland after he had taken a 3-year-old record of 2:19½, and was raced by several of his get that have taken mail records to wagon. Patron's 2:15 performers are as follows: Ananias (P), 2:06; Caracalla, 2:10; Hyannis (P), 2:13½; May Bloom, 2:12½; Helen K., 2:13½; Miss Della Fox (3), 2:14½; and Passe Rose (in Russia), 2:14½. His son Parole, 2:16, is the sire of three in the list, two of them having records below 2:20.

L. E. CLEMENT'S HORSE GOSSIP.

Editor RURAL WORLD: What would Cresceus have done if he had only been possessed of enough of the sustaining blood of the thoroughbred? The thoroughbred was right for him when it was placed both sides of his way, and sent to try and accompany him. No whip was used, and yet the son of the old monarch of the home stretch passed under the wire so fast (2:03½) that only three lateral gafted stallions have ever covered the mile so fast. It is now in order for Mr. Ketchum to let the sorrel horse carry the wagon record and then he can get him ready to retire to the stud. With the scalp of Maud S. record to high wheels hanging at his belt, he will then be no other records to capture.

The fair meeting of 1901 at Moberly has passed into history. Miller's Park is a nice place for such a meeting. Only years can produce such shade trees. A thousand or fifteen hundred on the track and inside fences would place the track among the greatest race grounds in the whole country. The fair of 1901 was run by Kelley, Dingle and Roberts. They saw that with the continued dry weather or they were, to use the language of the street, "up against it," and they determined to go through with the program and make the loss as light as possible.

While Columbia and Quincy have declared off part or all of their races, Moberly has let the horse race for all that trotters, and there will be 120 cents on the dollar. Not a horseman left Moberly discontented with the management. In the 2:23 trot Fortune Hunter by Lord Wilton lowered his record to 2:22½ in a five heat race after Outcast and Pilot Knox had each won a heat in 2:24½. On the same day in 2:17 class Gratt by Grattan and Lon Kelley by Conflict each lowered the record to 2:16½, Lon Kelley winning a four heat race. In the 2:35 class pace Mr. Blissett, driver for H. H. Downing of Marshall, Mo., scored his second victory with Turpinette, brother to Belle Corley, 2:09½, by Robert Ryan, that has been owned for several years at Marshall, Mo. Turpinette is a new standard performer and took a record of 2:23½ after dropping a heat to Walnut K. by Walnut Boy 2:13½ in the same time 2:13½. Walnut K. is owned at Valley Falls, Kan., and is the first new standard performer for Walnut Boy in 1901. In a special trot won by Prof. Nelson by Eros bred and owned by the King Hill Stock Farm John G. Taylor took a standard mark. This horse is a descendant of Indian Pet and was sold last spring by his breeder to W. R. Phillips, a saloon man of Kansas City, Mo. He was driven by Walter Morrison, driver of Lon Kelley. It will be noted that this was the third race won by Mr. Bliss.

Big Thursday opened up with the 2:25 pace and it was very plain soon after starting that they were billed for a horse race. The sorrel stallion entered as Smuggler and sired by a Black Hawk horse that it is claimed took a standard record at Emporia, Kan., dam sold to be by Smuggler, started off, closely followed by the bay gelding Dr. Porter by Walnut Boy. The heat was won by the sorrel horse in 2:14½. The second heat was won by Smuggler in 2:15½; the horse seemed very tired and after the second heat and Dr. Porter went on and won in 2:24½, 2:25½, 2:26½, one heat in standard time, making the second Walnut Boy to enter the list at the Moberly meeting.

In the 2:45 trot two great colts showed up. Many readers of the RURAL WORLD will remember the black roan mare, Maud S. owned by Dr. Piser of St. Louis. If I remember rightly she dropped dead in or after a race at Jerseyville, Ill. After she had made a record of 2:19½ it was found that the mare was in foal. Stable boy stories were flying about and accounted for the paternity of the little miss, but nothing was ever established. At Roodhouse, Ill., at the Pro Stock Farm, she was bred by the progenitor to Bonnie McGregor, and foaled a sorrel horse called Bonnie Thomas, that started in the 2:45 trot. Bonnie Thomas took the lead, followed by Vanity S., 2:23½, made at St. Joseph. This mare is by Neblo, son of Walsingham, owned at the Kendall Stock Farm, Valley Falls, Kan. Bonnie Thomas won the race, 2:23½, 2:23½, 2:23½. In the second and third heats Bliss brought Halie Hardin into second place and it seemed to be no trouble, but in the fourth heat it was a great show, more that has won 26 firsts out of 28 times shown, sired by Russell Hardin, a son of Ashland Wilkes, and out of the old trotting race mare Halie Harris by Combination.

On Friday, the last day of the meeting, Prof. Nelson, by Eros, was started to beat his race record of 2:15. He won after making a losing break at the quarter pole making a record of 2:23. This is no measure of his speed, but bad handling has spoiled him for a race horse. It will take time, patience and money to make him approach what he might have done easily if handled with judgment from the first. Mr. Bliss deserves great credit for the manner in which Prof. Nelson and Esie Dodson have been handled since coming into his hands.

The 2:30 trot developed several surprises. The fastest horse in the field was the large black horse McGrattan by Grattan, but his education has not been what it should be for a race horse. He has been used too much to prompt colts, taken back to wait if they broke, and he does not realize what is wanted of him. A few races will make a difference. There were three heat winners in the race, but the winner, Esie Dodson, was the only one that took a new mark. She won the third, fourth and sixth heats and a record of 2:25, and raced consistently throughout the race. All the horsemen who were at Moberly went out of their way to get back to their meetings given by the same management.

INFLUENZA IN CHICAGO AND CAIRO.

Horse owners of St. Louis have been discussing the ravages of the grip among horses. The disease started in the East and is said to be traveling westward in the form of an epidemic. It has broken out among horses in Chicago, but so far as known there are no indications that the disease has as yet obtained a foothold here.

Doctor H. F. James, veterinary surgeon, 1 No. 387 Laclede avenue, said last night that St. Louis horses so far have escaped the influenza, and that he knows of no cases among them.

"Pinkie" has prevailed among the St. Louis horses for nearly three years without intermission," said Doctor James, "but there have been few fatalities. I have heard that Chicago and New York horses are suffering from the grip, but the weather conditions in St. Louis have been such that our horses have escaped it. I fear no such epidemic at this time."

A special dispatch to "The Republic" from Cairo says: "Grip, that afflicts nearly two-thirds of the horses in Chicago, has attacked the animals in the police and fire departments. The malady threatens to seriously impair the efficiency of both departments, for almost half the 750 horses needed daily in the service are suffering. The chief symptoms of the disease are a high and intermittent fever, with a dry cough. The glands in the horse's throat swell until the afflicted animal is hardly able to breathe. The horse becomes weak and can barely stand on its legs."

"There are 500 horses in the Fire Department, and a dozen are now at the veterinary hospital. There is hardly a fire station in the city that has not felt the effects of the disease. Doctor Adam Barber, chief veterinarian of the Police Department, says that the only relief is to give the horses plenty of rest and to bathe their throats with pectoral remedies."

"While the disease seems to be decidedly contagious, so far as horseflesh is concerned, there is said to be no danger from it to the human family."

CRESCUS, 2:02½.
Cleveland, O., July 28.—Amid the enthusiastic cheers of nearly 10,000 people Cresceus, the world's champion trotting stallion, again demonstrated that he is the peer of all trotters, by trotting a mile this afternoon over the Glenview track in 2:02½. This establishes a new world's trotting record for both sexes, replacing the former world's record of 2:03½, held by The Abbot.

Owing to the heavy rains of last night the track was not in the best of condition to-day, and it was about 6:30 p. m. before the track was in good shape to warrant making the attempt. At the time the sun's heat had been replaced by cool breezes. Even then there were very few horsemen who looked for a mile better than 2:05.

After having been given several preliminary miles, George Ketchum came out with the stallion to attempt what seemed an impossible feat. Ketchum nodded for the word on the third score, the horse trotting like a machine.

Accompanied by a runner, the chestnut stallion fairly flew to the quarter, the timers' watches registering just 30 seconds. As Cresceus swung into the back stretch he was joined by a second runner, and although many predicted that the footing was such as would retard his speed, he reached the half in 1:31. As the time was hung out the immense crowd broke out in cheers.

The three-quarter mile was reached in 1:31½, and as the great stallion trotted came into the stretch, a runner on either side, his frictionless, machine-like stride was fairly eating up the distance.

WITHOUT TOUCH OF WHIP.
Never once faltering, notwithstanding the terrific clip, he fairly flew to the wire, being sustained only by his indomitable courage, not being touched once by the whip, his sole urging being the driver's voice and the thundering hoof-beats of the accompanying runners.

As the time for the mile was announced—2:02½—and the immense crowd realized that a new world's record had been established, Ketchum and his favorite stallion received an ovation such as has been but seldom witnessed on a race track. Thousands of enthusiastic people rushed out on the track and Ketchum was lifted from the sulky and carried to the grand stand on the shoulders of admirers. Cheers after cheers rent the air and the name of Cresceus was on the lips of every one present.

"Ketchum!" "Ketchum!" "Ketchum!" cried the crowd, and the owner of the stud, son of Robert McGregor was almost carried to the judges' stand, where he delivered a brief address.

HOLDS THE WORLD'S RECORDS.
Cresceus now not only holds the world's trotting record and pace record, but last week at the Detroit Grand Circuit meeting, by trotting in 2:06½ and 2:06 in his race against Charley Herr, secured the world's record for the two fastest heats ever trotted in a race, his second mile in 2:05 also being a new world's record for the fastest mile ever trotted in a race and also the fastest second heat ever trotted.

According to official reports in 1900, running races were held in 90 cities, while harness events took place in 889 places, with 300 extra meetings, making a total of 1,269.

ELEATA, 2:06½.

Eleata (originally named Elata and sold under it, the second e having been since added), was brought east as a 2-year-old, with the consignment sold by Palo Alto at the Fasig-Tipton May sale at Cleveland, O., says the "Horse Review." In the sale catalog she is No. 3, is given as having March 27, 1897, black, no marks and 15½ hands. Supt. Covey's printed statement about her runs:

Eleata we consider one of the best in the sale. She is an exceptionally fine-looking filly and galloped right to go fast. Speed report, March 1—She has been handled since December 1, 1898. Can now step quarters in 27 seconds. April 19—Quarters in 26 and eighths in 17½ seconds.

Under the hammer she brought \$900, going to Supt. Daniel Mahaney, for Hon. Frank Jones of Maplewood Farm, Portsmouth, N. H., who had purchased Iroquois, 2:12½, and Elton, 2:10½, from previous Palo Alto consignments. She was not raced that season nor last year as a 2-year-old, as she had no stake engagements. In her work she showed a very high rate of speed and all the critics who had seen her this spring thought more than well of her. Six weeks ago Mr. Herbert Grey, manager of the Lawson Stud and Elton, 2:10½, in 1898, she produced the bay colt Conrad by Electricity 2:16½. This colt was taken sick en route to a sale in the east and sold at San Antonio, Tex. In 1899 Columbine produced the beautiful colt Adeline by Advertiser. Adeline was sold at a New York sale, subsequently purchased by Mr. J. B. Haggitt and placed in the stud at the Ketchum farm. In 1898 she produced the bay colt Columbario by Advertiser 2:16½, sold in New York. In 1896 barren and in 1897, at the age of 24, she produced the chestnut filly Antee by Dexter Prince, a filly that is reserved at Palo Alto as a brood mare. Take her all in all, Columbine was a great brood mare, having four in the 2:30 list, five producing sons and a producing daughter, a great showing for the half thoroughbred daughter of Imp. Bonnie Scotland, that carried the blood of Fashion.

SAVED BY HIS HORSE.

Cleveland, O., July 27.—The almost human sagacity of the horse was demonstrated when 11-year-old Ray Campbell, whose mother was drowned in a cloud-burst, told his experience during the frightful night. According to the boy's story he and his mother were driving along the road about 9 o'clock, the water being well up over the animal's knees. The rain was yet falling in torrents and it was as dark as pitch. Suddenly the horse stopped. Mrs. Campbell hit it with the whip, but it didn't budge. Against the little boy's entreaties she hit the animal a second time, when it plunged forward and horse, buggy, boy and mother were in a torrent. The boy was thrown on a log, one of the many being washed down the creek. The log was driven into a piece of high ground and stuck fast. Several hundred yards below the boy heard his mother crying for help. He answered her, but was afraid to trust himself to the swift current. At the second answer he heard a horse's whinny and soon the animal appeared swimming out from the bank. It came to him and rubbed up against him. He then quit his hold on the log and grasped the horse's harness, when the animal swam with him to the bank. There he must have become unconscious, as it was midnight when he reached a farmer's house half a mile away, and the watch found on his mother's body had stopped at 9 o'clock.

QUINCY, ILL., FAIR.

First day, 2:40 pace, purse \$300:
P. D. Q. 1 1 1
Black Bear 1 5 6
Charlie F. 7 2 2
Hann Vandear 5 4 2
Harry Johnston 6 7 5
Florence Onward 2 6 4
Maude Baker 4 3 7
Dircymonch 9 8 5
Bill McKinley 8 5 5
Maudie Bull 11 11 11
Young Marvin 11 11 11
Time—2:24½, 2:24½, 2:27½, 2:27.
The first day brought out a good big field, and the racing was good, but the crowd was not large. H. E. Woods, starting judge, was, as usual, in good form, and sent the horses away prompt and in good shape.

Second day brought out a good field of 2:17 pacers, and the racing was hotly contested.
2:17 pace, purse \$300:
Aterose 5 4 1 1
Mark Range 1 1 2 3
Miss Pat 3 3 4 2
Pilotelle 2 5 3 4
George 7 2 5 5
Tom Edison 6 6 5 4
Maude Pierce 6 6 4 2
Time—2:24½, 2:19½, 2:19½, 2:22.
2:30 trot, purse \$300:
Bob McCormick 6 6 1 1
Influence 1 2 2 2
Val 3 1 2 3
Happy Jack 2 3 5 5
Algoild 4 4 5 5
Billie Bryne 5 4 5 5
Time—2:21½, 2:21½, 2:25½, 2:24½.
2:25 trot, purse \$300:
New Market 4 2 1 2 1
Bud Dines 3 3 3 1 2
Linnie 2 1 6 4 3 8
Linda Alerton 6 7 5 6 5 0
Charlie S. 5 5 4 7 6 0
Dick H. 8 7 5 4 0
Erney Ensign 7 2 1 2 4
Beatrice 6 6 1 1
Lillian Russell 9 9 8 4
Time—2:25, 2:25½, 2:24½, 2:25, 2:25½, 2:30½, 2:33½.
2:24 pace, purse \$300:
Baron Nutpine 1 1 1
P. D. Q. 2 2 2
Jimmie Glaston 3 4 3
Kittie Blossom 4 4 3
Time—2:24½, 2:24½, 2:24½.
This was the last day of the meeting.

STALLION ADRIAN WILKES DEAD.
Waterloo, Ia., July 27.—Adrian Wilkes, sire of Roy Wilkes, 2:06½, and 38 other famous trotters and pacers, having records of 2:30 or better, died to-day at the Wilkes Valley stock farm. He was 54 years old.

Leg and Body Wash.
Race horses often become sore and stiff from continued work on the hard tracks. Nothing takes so quickly to the legs and body and like a wash compounded of diluted Tattle's Elixir.

Apply to the legs and put on light bandage. Squeeze the body and put on light bandage. Guaranteed to produce desired results or money refunded.

Prepared by Tattle's Elixir Co., 1000 Broadway, New York, N. Y.

Dr. R. A. Tuttle, V. S.
Note.—I have used your Elixir for the past six years, in the afflicted form for a leg and body wash. I consider it the best for keeping horses from sore legs. Horses come out with this wash as if they had never been on the track. I have used it on many other animals and it has done me good. I have used it on many other animals and it has done me good. I have used it on many other animals and it has done me good.

Dr. S. A. TUTTLE, 21 Beverly St., Boston, Mass.
Be aware of so-called Elixirs—none genuine but Tuttle's. Avoid all imitations; they often only temporary relief if any.

PATRON AND WILKES BOY.

It was something of a coincidence that within a day there passed away two of the greatest representatives of two famous trotting families, Patron, who was the first to attract attention to the Pancoast-Beatrice family, and Wilkes Boy, who was one of the first to show the greatness of the George Wilkes-Mambrino Patchen combination, says the "Horseman." So long as this generation lives the word Patron will stand for gameness and great speed. Great horses have since appeared, but the speed of Patron as a colt is still fresh in memory. He came at a time when the turf needed a sensational colt performer, and he grew into a champion when the race tracks needed such a horse to enthuse the public and to add excitement to an industry that was beginning to flourish. Patron was foaled at Glenview in 1882 and was by Pancoast, out of Beatrice, she a daughter of Cuyler and Mary Mambrino, dam of Elvira, 2:18½. A. H. Merrill of Elmhurst, Ont., purchased him as a colt, selling a half interest and finally his entire interest to C. F. Emery of Forest City Farm, near Cleveland. As a 2-year-old he won a race at Brantford, Ont., scoring a record of 2:42½. In his first start in the memorable 3-year-old campaign of 1886 he was fourth at Chicago to Mansanta, Silverone and Esie Dodson. The Kentucky race at St. Louis on October 8, which won him lasting fame. It was in the Gaconade stake and his opponents were Mansanta, Silverone, Eagle Bird, Iona, Granby and Greenlander. It was a duel to the death, and in the six heats Patron was the contending horse each time, winning the third, fifth, and sixth heats in 2:23½, 2:24½, and 2:25½. The two went to Mansanta in 2:23½ and 2:24½, and the fourth to Silverone in 2:24½. Two weeks later he met Silverone and Granby at Lexington and won in straight heats, the third in 2:19½ being the record for a colt of his age. He appeared only twice as a 4-year-old, Mansanta beating him at St. Louis. Later at Lexington he won over Linda Rose, Tom Rogers, C. F. Clay and others, trotting the fastest heat in 2:20½. He made the sensational campaign of 1887. At Stillwater in June he was second to Belle F., and the next week he started at Hamline against Arab, Charley Hilton and Joe Davis, and won, trotting the fifth heat in 2:30. On July 1 he won at Detroit, trotting the third heat in 2:16, and the next week won a special race from Harry Wilkes at Cleveland in 2:16, 2:16½ and 2:14½, his record. His next engagement was in the Charter Oak stake at Hartford, when he defeated Prince Wilkes, Loretta F., Astral and others, the fastest heat in 2:17. After beating Atlantic on September 14 he was asked to beat Clingstone the next day. The task was too much for him and he was drawn before the contest was completed. The next week in a special race at Detroit Clingstone was again successful. In 1888 he met Prince Wilkes in four special races and was defeated each time. At Cleveland he won a heat in 2:16, and at Detroit he outtrotted Prince Wilkes twice in 2:18 and 2:15½. In 1889, after twice trying to improve upon his record of 2:14½, he was permanently retired from the turf. Patron has to his credit Ananias, 2:06; Caracalla, 2:10; Hyannis, 2:11½; May Bloom, 2:12½; Helen K., 2:13½; Miss Della Fox, 2:14½; Luzelle, 2:15½; Parole, 2:16, and many others.

Wilkes Boy early attracted attention through the unique character of the man who bred and owned him nearly all his life, Timothy Anglin. Wilkes Boy would have made himself grand under any conditions, but the personality of his owner brought him into earlier prominence than if he had been in the hands of any other man. In turn the horse made the venerable Kentucky horseman a fortune. He was foaled in 1880 and was by George Wilkes, out of Betty Brown, the 12nd Mambrino mare, and Alcyone had proven successful, interest in the Wilkes-Patchen cross increased when Wilkes Boy trotted to a 4-year-old record of 2:24½, and the fame of the blood was increased, too, when Mr. Anglin doubled up the blood again by mating the son of Betty Brown to mares that also carried her blood. Wilkes Boy is excused as a sire of speed by many sons of George Wilkes, but he got early and extreme speed and few sons of the old sire got a greater number of large money winners. The first of the Wilkes boys to appear was Angelina, a noted stake mare that took a 2-year-old record of 2:25½ and which, at maturity, trotted in 2:12. After her followed Nelly A., a great filly as a yearling, 2 and 3-year-old and the winner of more than \$50,000. Sternberg (2:25½); Constantine, 2:12½; Grattan, 2:13; St. Vincent, 2:12½; Oratorio, 2:13; Thoro, 2:12½; Patchen Boy (3), 2:10½, all added to his fame. His fastest trotter is York Boy 2:06½, who came out only last year, and his fastest pacer is Courier Journal, 2:06. In all he had 48 trotters and 12 pacers to his credit. The power which he possessed as progenitor of speed he transmitted to his sons, who rank very high as extreme speed sires, and time will no doubt show that the Wilkes Boy family breeds on and can hold its own with the best of the Wilkes tribe. Although the family is still young, Grattan is the sire of Grattan Boy, 2:08, and Palmyra Boy, 2:07½. St. Vincent is the sire of Lord Viceroy, 2:08½, etc.; Constantine of Royal R. Sheldon, 2:06, and Lady Geraldine, 2:11½; Oratorio, of the wonderful Alce Mapes, Martin, and Albion, of May Alcott, 2:12½. Daughters of Wilkes Boy have produced such as Journeyman, 2:11½; Porto Rico, 2:14; Maggie J., 2:14½; Tom Martin, 2:14½; and Ima Electric, 2:15½. Wilkes Boy was owned jointly by Messrs. Estell and Schumacher, and died at Elmhurst Farm, near Lexington, one day last week.

THE JAPANESE BUY TROTTERS.
Representatives of the Japanese government are visiting this country and last week paid a visit to the Village Farm at East Aurora, N. Y., for the purpose of purchasing a number of colts to export to Japan for stud purposes. The Fasig-Tipton Company arranged the deal for the Japanese representatives and 13 head were purchased. Of these three were brood mares, one each by Chimes, Mambrino King and Rex Americus, one was a filly by Dare Devil, one a 4-year-old stallion by Rex Americus and the rest were colts by the various Village Farm sires, one a 3-year-old, one 3-year-old and the rest yearlings.

Following is a list of the horses purchased:
Waygrass, b. f., foaled March, 1896, by Dare Devil; dam Rahway, by Lord Russell.
Alice Chimes, b. m., foaled May, 1898, by Chimes; dam Doris, by Mambrino King.
Bonnie Kate, br. m., foaled March, 1898, by Mambrino King; dam Kate.

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Delaine, Merino and Cotswold cross from noted flock. Ewes shorn average of 13 lbs. Back 26 lbs. Also two Shorthorn bulls, one at the farm of AUGUST C. ORF, Dardene, Mo.

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125 head in herd. 20 bulls for sale from 6 to 16 months old. Scotch and Scotch topped. Herd headed by (Lavender Viscount 124755), the champion Shorthorn bull of the Kansas City Show, 1900.
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The best 3-year-old saddle stallion on the market. Also 12 head of yearlings; together or separate. These are among the best animals ever owned or bred at Limestone Valley. They should have a breeding farm.

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Only one fare plus \$2.00.
July 2 and 16, August 6 and 20.

Home Circle

A THANKFUL HEART.

Thou art not rich, thou art not poor,
Thy fortune keeps the middle way;
No ill thy strength cannot endure,
Appointed to the passing day.
Thou art not young, thou art not old,
Yet calm, thou seest thy years depart;
And joys are thine a thousand-fold—
Because thou hast the Thankful Heart.

A Thankful Heart, for Life alone—
For Beauty in the earth and skies,
(And for such share as thou dost own
By happy gift of seeing eyes)—
For human Love's enduring bond
Where stanchly thou dost bear thy part—
For solace here and hope beyond—
For all, thou hast the Thankful Heart.

So, to this day of crowding cheer,
By easy course thy steps did tend,
Since with each day of all the year
Some grateful heaven thou didst blend,
No chance thy prize from thee can wrest;
With that good gift (of all, the best)
The treasure of a Thankful Heart.
—Edith M. Thomas, in Harper's Bazar.

PAN-AMERICAN IMPRESSIONS.

Readers of the Home Circle will possibly be interested in seeing through editorial eyes, very dimly, we grant, some of the marvels of the Pan-American Exposition.

Arriving in the Rainbow City, and in the vicinity of the Exposition, at about 8 p. m., our first view of the Pan-American was when it was again with our light. As we witnessed the scene from our room window, we felt that we had been given a glimpse of the New Jerusalem. Its magnificence will never be depicted by the pen. It must be seen to be appreciated. In these illuminations over a half million of electric lights are employed, and in the Electric Tower, the culmination of this glory of light and beauty, 75,000 lights are used. Then we are made to marvel still more when we reflect that the power which generates the electricity for this brilliant scene is the flowing waters of the majestic Niagara—twenty-five miles away. Might, power, beauty.

But when we stood on the Triumphal Causeway and viewed the scene with the electric tower in front of us and the buildings facing the esplanades and surrounding the Court of Fountains, all in full light and blazing in light, we said never have we seen the beauty of light so wondrously displayed. We even queried if it were possible to have it more beautiful.

Later the scene was witnessed from the heights of the tower itself. Here we were 253 feet above the crowds below. The total height of the tower is 400 feet. While this gave a superb outlook of the Exposition and the surrounding country, yet we were conscious that the magnificent feature of the illumination was lost out. The source of the great power that furnishes this flood of light is most fittingly suggested in the form of a majestic cascade 70 feet high that continuously pours out its volume of water from the south cascade of the tower.

We regret that more study is not made of the buildings and grounds themselves, as the decorations are not simply decoration, but are intended to express facts. The Goddess of Light, on the tower, is 15 feet in height, and this figure shining against a cloudless sky was our last glimpse of the Pan-American Exposition, as we were leaving Buffalo by the Wabash road.

Those of us who attended the Columbian Exposition at Chicago thought that the White City was a thing of beauty, and it was, but in the color scheme of the Pan-American the beauty displayed is more marvelous and varied. It takes more skill to combine colors to produce harmony than it does to display forms of pure white. And no place was the eye offended by color effects, even when these were strong and bold. And we found the strangely fascinating green of Niagara much in evidence.

The manufactured products were magnificent, but we felt that they were finished, and they failed to charm us as did the products of the field and garden. We felt very much as we did when we were a little girl playing with dolls; the handsomely dressed one soon wearied us, and the ill-looking old rag doll was the loved and favorite one. Then, we felt philosophize that the normal child does not want complete things because they give no chance for growth; but we believe the same is true of men and women who are really wholesome. We want something to do, and the unfinished product gives the mind full play to dream what we might do and what we might produce.

We will endeavor to give some notes on the exhibits at another time.

Written for the RURAL WORLD.

"THE WEATHER."

We Ozark Mountaineers, that are inured to many hardships, have of late months had to grapple with late vegetation succumb to this protracted drought. The hopeful have ceased to hope, and it is an unanswered question as to how the people and stock will get through the winter.

We are thankful for even a cloudy day, for with a sky of brass, an earth of iron and hot winds blowing, we are thankful for shade and plenty of drinking water. We cannot see the "blessing in disguise" in this terrible weather, but imagine how know how a gambler feels when, speculating, he throws his all and loses. The grass on the range has cured up as bright as good hay. The only prosperous things are the poultry. They thrive on the wheat stubble and grasshoppers.

The Fourth of July picnic, with its dust, noise, cheap lemonade and crying babies is a thing of the past, and a trip to the river for a whole long day, where the children could enjoy wading, boat riding, fishing, swinging on grape vines, and then rest under the dense shade of the monarchs of the forests, centuries old, close to a good spring of sparkling cold water and partake of the easily prepared luncheon, was a truly enjoyable and restful pleasure and compensatory for the endured pleasures (?) of the Fourth.

I am afraid the good things we will have to eat will be likened unto what a little mountain maid had for supper. "You can't guess," she said, "what we had good for supper." After giving a limitless number of answers we were compelled to give it up, and then she answered triumphantly, "A new tobacco-cloth."

The young folks roll on the little cabin floor, all merry and happy and bright,

and I am glad that childhood does not have to buckle on the graver responsibilities, and that the children are not affected by dry weather and hard times.

We had promised ourselves a few new conveniences in the shape of dwelling and chicken houses this fall, if crops were good; but we know all these are slipping from our grasp, and we will have to retrench and practice new economies. I am glad to add that since I commenced this letter we have had such a good rain, the heaviest rainfall since April. Two immense clouds met overhead, then heavy thunder and bright lightning—the grandest display of electricity—broke loose. There was sighing and moaning of thirty forests as the wind swept through them scattering the dried leaves and breaking down unsond trees and limbs, preparing the way for the rain. From the cloud to the dusty earth the great sheets of rain swept along majestically. We in the valley could see the rain on the hillsides, washing and drenching the giant oaks. There was a hurrying of poultry and calves to shelter, and then we were enveloped. Flash after flash of lightning and the heavy booming and rolling of thunder were kept up incessantly, and the much-needed rain was given to us at last. Many crops are past redemption, but in these short, remaining summer months we have one small chance of raising some quickly grown crops.

There is a fair sale here now for less than 11 an acre, and many are offering their homes for a song; so if anyone is musically inclined, now is the time to sing. PINE BURR. Wright Co., Mo. The magnificent courage expressed in this letter is worthy of a Florence Nightingale or a Clara Barton. But the noblest heroism of war is not found in the nation's battlefields, but in the bloodless battlefields of life, where no murderous weapons are to be seen, but where life blood is sapped by loss, discouragement and adversity. We personally know what chinug bug and grasshopper ravages and drouth disaster mean, and during the present season we have watched with anxiety, hoping for news of relief in the drouth stricken sections. The reports have made us sad, and we have felt that to murmur regarding the heat here in the city, sweltering though it is, was weak.

It is no easy matter to forego the new home and household conveniences that have been planned for and so joyously hoped for, but the crops were being planted. The woman of cultured mind does love the pretty adornments of home that bespeak refinement. Yet with each passing year we are more impressed with the fact that things do not express the culture of the home, if the individual possesses not that innate refinement that externals can never give. We wish we could send you a picture of our own home and have a face to face talk.

Written for the RURAL WORLD.

BAKING IN SUMMER.

Generally speaking, a sensible housekeeper will not light her regular cooking stove in summer except for laundry purposes or for the semi-weekly baking days. Frequently a small cook stove in a building not connected with the house is used to heat the water for washing and boiling clothes; and in that case the household ironing may also be done there. All the simple meals of summer may be easily prepared with a small gasoline or oil stove, if there are only two days of the week given up to baking. Provided one is not fortunate enough to have a set oven of iron or brick in which this baking may be done, where the heat employed does not reach the living rooms of the house, the family range on the two days set aside must, of course be resorted to.

By proper management a great deal of heat may be kept from the rest of the house even then, however, and the worker spared much of the exhausting effects of it. In the first place, all the doors leading to the rest of the house should be carefully closed. On the other hand, open all the windows and doors of the kitchen when the cook stove is in, and screen them with wire screens, which exclude the flies and let in cool air. Do the work of preparing bread, cake and pies for baking in an adjoining apartment, if possible, beyond the reach of the heat of the fire. A cellar kitchen or a room partitioned off in any cool, whitewashed cellar is the best place to make pastry in summer. When it is made upstairs in an atmosphere where the heat of the cook stove is added to the heat of summer, in spite of ice water and marble pastry boards, the pastry turns to an oily consistency, which insures it being "heavy" when baked.

In case there is no convenient room in the house, an outdoor kitchen improvised upon a shady trellis will be a better place in summer to make pastry, and also to knead bread, prepare fruit for canning and iron, than any room indoors. These improvised kitchens are common abroad. It is furthermore a common practice in Europe to serve meals on a broad, shady piazza, open to the breezes and air. This is especially a delightful plan for the evening meal, when protected all day from the sun, also an agreeable spot to do housework. Why? Because the breezes keep away the heat as well as the flies, which are likely to swarm around the precincts of any warm kitchen enclosed in four walls. FRED O. SIBLEY.

Osteo Co., N. Y.

WARM WEATHER DIET.

"It is astounding," said a physician to a writer in "Good Housekeeping," how little thought the people give to their food in relation to various seasons of the year. To this very carelessness I lay much summer sickness, often an illness that ends fatally. Take the matter of left-overs. A warming hash, ragout or meat pie is all right for the depth of winter, but not for weather when the blood needs cooling. I would not treat every housekeeper to buy a morsel of pork ham or sausage from June till October. Reserve even beef, lamb and veal for the cooler days of summer, and in long hot spells let meat alone entirely. Nature provides for these burning days with vegetables and fruit, tender chicken and fish, firm, white-fleshed fish. If you have left-over foods to be utilized convert them into chilled, appetizing salads instead of ragouts. If soups are a necessity, let them be thin or bisques. I would prohibit pie and jelly cake, and let fruit, less, delicate riches or milk puddings take their place. I'd also put a veto on hot breads. If people could turn an X-ray on the poor, overworked stomachs I'm called to care for all summer long and see the mischief done by overeating and eating things that have no business to be cooked in hot weather, they would realize I am speaking earnest truth."

Written for the RURAL WORLD.
THE STORY OF FORT SUMPTER.
Pen Picture of the Event From Personal Observations.

On Thursday, April 11, 1861, the demand to surrender the fort was made and declined. At about 4 o'clock Friday morning fire was opened on us from all points at once. To our astonishment a masked battery of heavy columbads, opened on us from the part of Sullivan's Island near the Floating Battery, the existence of which we had not the slightest intimation. It was covered with brush, which completely concealed it. Seventeen mortars, firing ten-inch shells and 23 heavy guns, mostly columbads, were used in the assault. The crash made by those shots against the walls was terrific, and many of the shots took effect inside the fort. We took breakfast at 4 o'clock, after which the command officers and men, were divided into three reliefs. The first relief was under the command of Capt. Doubleday of the artillery. This detachment opened fire. The iron battery was of immense strength, and most of our shots struck and glanced off. The fire was so terrific that Maj. Anderson refused to allow the men to man the guns on the parapet. Had they done so every one of them would have been sacrificed. Our men owed their safety entirely to the care of the officers in command. A man was kept constantly on the lookout who would cry out "shot" or "shell" at the work the enemy made. The veterans were at first rather reluctant to assist in handling the guns, but they gradually took hold and rendered valuable assistance.

The effect of the enemy's shot was terrific, especially on the officers' quarters. One tower was so completely demolished that not one brick was left standing upon another. The barracks caught fire several times on the first day and the flames were extinguished only by hard work. On the second day it caught fire again, and an attempt to extinguish it was so dangerous that it was abandoned. The subsequent shots of the enemy took more effect in consequence; the walls were weakened and we were more exposed. The main gates were destroyed, thus leaving us exposed to the murderous bombardment. The fire now rained down on all sides. Fearful that the walls might crack and the shells protrude them, we commenced taking the powder out of the magazine before the flames had fully enveloped it. We took 96 barrels of powder out and threw them in the sea, leaving 300 barrels in. When we were finally obliged to close the magazine, we were left destitute of any means to continue the contest. We had eaten our last biscuit 36 hours before. The men lay prostrate, being nearly stifled by the dense smoke, with wet handkerchiefs over their mouths and eyes, gasping for breath. If an eddy of wind had not ensued all would have been suffocated. The crashing of the shot, the bursting of the shells, the falling of the walls, and the roar of the flames made a pandemonium of the fort. Towards the close of the day, Gen. Wigfall made his appearance at the embrasure with a white flag, and asked to see Maj. Anderson; "I am Gen. Wigfall and come from Gen. Beauregard," and added in an excited manner, "Let us stop this; you are on fire and your flags are down. Let us have a truce. No, sir; our flag is not down; you can see it waving over the ramparts." At this point Maj. Anderson came up and Wigfall said: "I am Gen. Wigfall and come from Gen. Beauregard, who wishes to stop this." Maj. Anderson, rising on his toes and coming down firmly on his heels, replied: "Well, sir; Wigfall said: 'On what terms will you evacuate this fort?' Maj. Anderson replied: 'Gen. Beauregard is already acquainted with my only terms.' Wigfall said: 'Then you will evacuate only on the terms proposed the other day?' 'On these terms only,' was the reply of the Major.

Between two and three hours after, the garrison meanwhile exerting themselves to extinguish the fire, another deputation came from Gen. Beauregard, agreeing to the terms of evacuation previously proposed. This was Saturday evening. That night the garrison took what rest they could. Next morning the Isabel came down and anchored near the fort. The steamer Clinch was used to transport the garrison. When it was the Isabel, but the transfer was too late to allow the Isabel to go out by that tide. The terms of the evacuation were that the garrison should take its individual and company property, that they should march out with their side arms, with all the honors, and that they should salute their flag and take it with them. The baggage of the garrison was all on board of the transport, the soldiers remaining inside under arms, a portion were detailed as gunners to serve in saluting the American flag. When the last gun was fired, the flag was lowered, the men cheering. At the 50th discharge there was a premature explosion which killed one man and seriously wounded another. The band played "Yankee Doodle" and "Hail to the Chief." Remaining on the Isabel that night the next day they were transferred to the Baltic. On Tuesday evening they weighed anchor and sailed for New York. DYPE.

The Cliff, Ill.

FOR CONSCIENCE SAKE.

Girard, the millionaire of Philadelphia, one Saturday ordered all his clerks to come on the morrow to his wharf and help to unload a newly arrived ship. One young man replied, quietly, "Mr. Girard, I can't work on Sundays." "You know our rules." "Yes, I know. I have a mother to support, but I can't." "Well, step up to the desk and the cashier will settle with you." For three weeks the young man could find no work, but one day a banker came to Girard to ask if he could recommend a man for cashier in a new bank. The discharged young man was at once named as a suitable person.

"But," said the banker, "you dismissed him." "Yes, because he would not work Sundays. A man who would lose his place for conscience sake would make a trustworthy cashier." He was appointed.—Catholic Messenger.

Fresh tomatoes are anti-bilious, and thus not only wholesome for healthy people, but may be used with advantage in many cases of fever. Dio Lewis used to say that he expected to see the day when tomatoes would take their place in the pharmacopoeia among established remedies for fever. Fresh tomatoes, gathered from the vine before the sun is on them, are excellent for dyspepsia. They should be eaten without seasoning, or, at most, with a little salt.

UNCLE HIRAM'S OBSERVATION.

Roy Farrell Greene.

"I've seen," said Uncle Hiram, "lots o' noble men an' brave Through jes' one bit o' folly brought t' ruin an' the grave— Men rich endowed with honor, men respected an' revered, Whose qualities were envied an' whose virtues were endeared. An' yet they made a failure, much t' ev'ry one's surprise, But, my boy, I've watched the matter, an' in this the secret lies: They were men who in positions of advantage had been placed, With a hundred dollar income and a thousand dollar taste."

An', my boy, I've seen them sinkin' in the treacherous swamp o' Debt; I've watched the ooze creep higher, an' the waters o' Regret. An' I've sometimes felt like callin' 'em a fool, but I've seen 'em buildin' up a likin' for champagne! You'll find your Uncle Hiram's right, as on through life you go, That some men live on what they make an' some on what they owe. But the first class, though they're porged, pass the ones who've flogged in haste, With a hundred dollar income and a thousand dollar taste."

So I've learned a valued lesson that to you I fain would teach. Don't ever feed on apples that you find beyond your reach; If you've money jes' enough to pay for beer it's plain You're not worth buildin' up a likin' for champagne! You'll find your Uncle Hiram's right, as on through life you go, That some men live on what they make an' some on what they owe. But the first class, though they're porged, pass the ones who've flogged in haste, With a hundred dollar income and a thousand dollar taste."

Written for the RURAL WORLD.

SEASONABLE SUGGESTIONS.

I really did not mean to be absent from the table so long, but we have had such unusually warm weather that I have not felt like eating a bite. We are having the first frost we have had since we came to Missouri. The corn is not growing. Corn is a sorry sight. These are the first hot winds we have ever experienced, and I can tell you they are terrible. I pity all Kansas people if they have to go through as sultry weather and hot winds each year.

We have but little fruit to take care of; blackberries are drying up. Apples are coming no good. If we could only get a rain, we are, indeed, suffering for it. There is much sickness, as a result of hot weather. In these times of drouth and "destitution," as some of our blue farmers put it, we housewives find it hard to get up a meal. We have always had corn, tomatoes, peas, beans, beets, etc., and without them we look helplessly around for something to cook. What is there to get for dinner?

We are very fond of soups and save little bits to add to the soup. A nice clear soup is made by taking several potatoes and onions sliced thin, cooking until tender, and seasoning with cream, pepper, salt and butter. Now, there is your first dish for dinner. Another is fried bread. Take left over pieces and "heels" of bread, break into small bits, put into a skillet, pour over fried meat grease and a pint of hot water; when soft and mushy season with sage, salt and pepper. You will find this a very palatable dish.

We make our own table mustard by taking one tablespoonful of ground mustard and two of vinegar, salt and boil till it thickens. This makes the delectable fat side meat taste very much better. Enjoy milk toast for breakfast, as it saves buying any of the breakfast foods, though you do use the foods often. Take a quart of milk and let it come to a scald. Add bits of bread, sweeten, add a piece of butter size of a walnut. This is delicious. Another is thickened milk. Boil milk and add a little sugar and a dash of vanilla. If one goes to bed early she can arise early without any difficulty and get the bulk of the work done in the cool of the morning, and rest in the afternoons. These hot days rest is absolutely necessary. Keep each room darkened by closing blinds or drawing shades and take a "bureau" rest after your nap you will feel much more like finishing any work left undone. Keep cool as possible. During a recent illness of my mother I cooled the temperature of her room greatly by frequently wringing a sheet out of cold water and hanging it across the window. Don't get warm supper. It is positively cruel to have warm supper, then a cold breakfast. Cook enough for dinner to have for the next meal. A potato salad, good bread, fresh butter and sweet cold milk with fruit or some desert is good enough for anyone. Our men folks prefer the cold supper to a warm one.

I wonder if many other of the sisters' flower beds look as sad as ours. Every thing is parched and we had such a pretty flower garden. But we should be thankful for as good health as we have, and for a living. How many have neither. I think we are not grateful enough for blessings, and that is why our Maker is sending us this drouth. We meet at the church and pray for rain; do we ever meet purposely for a thanks service? I'm afraid we forget how good God is to us and need these reminders, hard though they be. Why could we not adopt some plan for recognizing the sisters and brothers at the St. Louis Fair? Would not a ribbon badge of white with the initials H. C. (Home Circle) be a good way to know who was a practicing Dr. Pierce, and to have and send their pictures I shall have to spoil the Circle page with my own to start the ball to rolling again. We had the pleasure of meeting a RURAL WORLD reader not long ago from Danville, Ill. His wife is a constant reader of H. C. I should like very much to meet you, Mrs. E. We enjoyed your husband's visit very much, and only wish he had brought along also. We are, "BLUE BELLS."

A FINE KIDNEY REMEDY.

Mr. A. S. Hitchcock, the clothier, East Hampton, Conn., says if any person suffering from a Kidney or Bladder Disease will write to him, he will tell them what he used. He is not a medicine dealer, and has nothing to sell, just directs you to a simple home cure that does the work.

Poultry

L. F. Harris, the well-known poultry judge, has been secured by the Sure Hatch Poultry Farm at Clay Center, Neb.

J. G. Kinder sends us another article on the subject of Poultry Breeding, but considering the warm weather now prevailing, we deem it wise to put it in a quiet pigeon hole for a week, hoping for cooler weather during which to give to the world this temperature-raising production.

SENSIBLE POULTRY HOUSES.

Editor RURAL WORLD: I don't think we should build houses on the hot-house plan to encourage winter egg production, but for goodness sake don't get the idea right here and now that I am going to advocate the tree method of winter poultry raising, but really if I were to prefer the tree method to a hot-house, I have heard of chickens freezing on the trees, but I have never heard of them getting sick on the trees. I have never yet seen anyone make a perfect success at building very warm houses and forcing egg production; unexpected happenings always come; fowls would get sick, etc., and when spring came they would be unbalanced for natural outside conditions. Yes, I know it will be said to put up an argument to dispute all this I am saying, but I am here to say that 99 per cent of those who have actually gone through the experience will not dispute me. There is a middle and safe ground in most everything, the dangerous places are the extremes.

Most everybody's mother was a fairly good poultry raiser; I know mine was. She usually kept about 100 hens over the winter, her poultry house was a log affair, with a tight roof and sides (we lived in Southern Ohio). The house was on a hillside and lower side of house was some two feet above ground, the space being open. There were no cold draughts up through the building—for reason that the roof and sides were tight, yet there was plenty of fresh air. The hens were not ailing and we gathered eggs around the stock barn and hay stacks all winter and when spring came they would break all records again.

Plenty to eat? I should say they had. They had everything raised on the farm and all they wanted most everything. People were not afraid of hens getting too fat then, and were not until they went to forcing them, and confining the fowls to small quarters. A hen that gets too fat when she has her liberty is invariably an old hen or naturally a poor layer. A poor hen will not lay until she gets fat, and is feeling good. This whoo boo about getting too fat most always comes from the chap who has fallen down with his hothouse and forcing business; his feed has gone to fat instead of eggs. No eggs on account of the prison and lack of healthy outside exercise.

Yes, fowls have feathers to protect them in cold weather and in warm weather; nature works wonders with the late hatched chicks. They feather out quickly in the fall to get ready for winter.

Winter laying is hardly a natural condition for fowls or birds, and when we undertake forcing things we reduce the output later on and invite disease to contend with and especially so if we pen them up in hotheouses. I prefer keeping up a healthy condition, even though I get no winter eggs at all.

Clay Center, Neb. M. M. JOHNSON.

MISSOURI POULTRY.

A Grand Exhibition of Poultry at the Missouri State Fair.

The officers of the Missouri State Fair have offered nearly \$1,000 in cash premiums for displays of poultry. Thus, it will be seen the Missouri men, under the management of Missouri women, with an annual output of poultry products of fourteen millions of dollars to her credit, and the Missouri poultry breeders, who are leaders in the industry, have not been neglected.

The premium list recognizes every breed, and a display superb in quality and both varied and mammoth in proportions is expected. The very best products of the poultry yards from Maine to California, will vie with Missouri bred fowls for the premiums and the ribbons which will be distributed by the Missouri State Fair.

The American bird with its well known



Will "go" until she drops, and think she is doing rather a fine thing. Very often the future shows her that she was laying the foundation for years of unhappiness. When the back aches, when there is irregularity or any other womanly ailment, then the first duty a woman owes to herself is to find a cure for her ailments.

The use of Dr. Pierce's Favorite Prescription in cases of womanly disease will insure a prompt restoration to sound health. It regulates the periods, stops unhealthy drains, heals inflammation and ulceration, cures female weakness. It makes weak women strong, sick women well. Sick women are invited to consult Dr. Pierce, by letter, free of charge. All correspondence absolutely private and confidential. In his thirty years and over of medical practice Dr. Pierce, assisted by his staff of nearly a score of physicians, has treated and cured more than half a million women. Address Dr. R. V. Pierce, Buffalo, N. Y.

"I will drop you a few lines to-day to let you know that I am feeling well now," writes Miss Annie Stephens, of Belleville, Wood Co., West Va. "I feel like a new woman. I took several bottles of 'Favorite Prescription' and was the 'Golden Medical Discovery.' I have no headache now, and no more pain in my side; no bearing-down pain any more. I think that there is no medicine like Dr. Pierce's medicine."

Dr. Pierce's Common Sense Medical Adviser, in paper covers, is sent free on receipt of 21 one-cent stamps to pay expense of mailing only. Address Dr. R. V. Pierce, Buffalo, N. Y.



E. W. GEER AND FAMILY.

The family group pictured above is that of our correspondent, E. W. Geer of Glen Haven Egg Farm, near Farmington, St. Francois Co., Mo. Mr. Geer is a native of Missouri, descended from Eastern parents on one side, his father being a native of Vermont, his mother of Missouri. His boyhood days were spent on a farm of 800 acres, which was situated in Logan Co., Ill., seven miles west of Lincoln. His father in that day was an extensive grain and stock farmer. Our Mr. Geer has followed along the line of agriculture the greater part of his life; since the year of 1871 nearly all of his time has been devoted to poultry and fruit culture, as natural inclinations direct him more along that line. Mr. Geer believes that a child is endowed by nature with a talent for the pursuit of life. He says: "I don't believe I was 'cut out' to follow the plow, although I have done so many a day. I believe in farming less acres and farming them more intelligently, qualities will compete with the bright plumaged fowls of the Asiatic and Mediterranean strains, while the Bantams, the Frieses and Rumpless will be attractive exhibits of the poultry show. Belgian hares, rabbits and ferrets for which liberal cash premiums are offered.

POULTRY FOR A LIVING.

A good many of the reports published of results with poultry refer only to a hundred or two hundred hens, and these seem to indicate that the average grower of poultry does not go very extensively into the business. There are, of course, thousands who merely raise poultry as a side issue on the farm. A few choice colonies of a large barnyard flock are kept, and the returns from these are found good enough to warrant continuing the business. In fact, poultry will be raised in a small way on all farms because of the need of fresh eggs and meat. Then, too, the poultry will eat up a great deal of stuff that would otherwise prove more waste, writes Anna Webster in the "Indiana Farmer."

But this is an era when people want to raise poultry as a business for the purpose of making a living income out of it. The question of a living income is variable, and may run all the way from \$500 to \$1,500 a year. Many beginners and would-be beginners are asking is it possible to make the latter income from poultry. They do not mean at the outset, but after they have learned a good deal from experience and have studied the matter carefully. The reports of a good many poultry keepers indicate that they make \$200 to \$300 a year, but that is hardly sufficient for anybody except a farmer who has other crops to depend upon.

To answer to these questions can be given affirmatively, but with some qualifications. To make a good living in raising poultry, that is, from \$1,000 to \$1,500 a year, one must have a good head for planning and organizing. The whole matter is to be found in the answer as to whether one can make a fair profit in 50 or 100 chickens. The person who can take a colony of one or two or three hundred chickens and make them pay is in a fair way to enlarge his plant so he can make a good living. But what he has learned in a small way must be rigidly applied on a larger scale. The temptation to deviate from this rule generally causes trouble. If a colony of 50 hens is paying well, it is scarcely worth doubling the colony twice the profit will be realized. This is not exactly true, for the plant must be enlarged, extra work be given, and the initial expense increased. If the beginner thinks he can

using less manual labor and more brains in the business." Fruit farming seems to him a step higher than plain farming, and the fancy poultry industry still a step higher than fruit raising. When he makes these statements he says, "Now, I am not trying to throw a shadow over anyone's pursuit in life. Some farmers would consider they were getting pretty low down in the scale by going from farming to the chicken business. Yet the poultry products to-day are in value more than any other farm product of the United States."

"I expect to spend the remainder of my days on this plant, bending my efforts in the behalf of developing the poultry and fruit industry of Southeast Missouri through the columns of the RURAL WORLD, and other good poultry and horticultural publications, in which I have been a contributor and advertiser for the past 20 years."

"Farmington, being known as the town of schools and churches, attracted us here that we might educate our daughter."

keep 100 chickens in the same place and manner as the 50 he will soon learn in sorrow of his mistake. The colony system must be observed rigidly, and every increase must be made by adding more colonies or flocks. It can be figured out on the basis of 100 chickens. The profits obtained from a flock of this also can be duplicated only by making all other flocks just as separate as the first. Thus 1,000 hens make a pretty formidable number to look after, and a large farm to accommodate them, but with a little planning and system they can be handled as profitably as 100. When one can handle their thousands as well as their hundreds they can make a comfortable income in poultry keeping.

FOR FREE SAMPLE
OF OUR FAMOUS OXONIZED MEDICINE
FOR THE SURE CURE
OF Catarrhs, Tumors and Skin Diseases
write, J. C. FETTY, N. B. 238 E. 9th St., St. Louis

WE GUARANTEE TO SAVE YOU
on any of the 100,000 articles listed in our large catalogues of
trusses, etc. Send 10c for catalog, and extended, please, only
7c. All orders filled promptly. Write to J. C. FETTY, N. B. 238 E. 9th St., St. Louis.

PENNYROYAL PILLS
The Great Remedy for Catarrhs, Tumors and Skin Diseases
SAFE, Always Reliable, Endorsed by Druggists
in MED and Good natured, made with
with blue ribbon. Take no other. Refuse
cheap imitations. Beware of cheap imitations.
Buy of your Druggist, or send 4c. in
name of "Pennyroyal Pills," in letter, by
return mail, and we will send you a bottle
of our Druggist. Medicine Chemical Co.,
Chicago, Ill.

POULTRY.

WHITE ROCKS exclusively; eggs, \$1.50 per lb. ROBT. B. HUMM, Florissant, Mo.

WANTED—1,000 FOX CUBS; always in the market. R. G. MASON, Kirksville, Mo.

BUFF ROCKS, S. L. Wyandotte and S. S. Ham-burg, Burles, Good game, try me. J. E. HAYNES, Ames, Ill.

CHEAP, BUT GOOD.
Young and old stock for sale now at the EGG FARM, Brown and White Leghorns, Barred and White F. Rocks, Black Minorcas and Bronze Turkeys. Eggs half price. CIRCULARS FREE.

E. W. GEER, Farmington, Mo.

Maple Hurst
Russellville, Tenn.
South Downs.
Poland-China.
Eight best breeds of poultry.
Short-horns.
Good stock at fair prices.

B. P. R.'s
Beautiful as any that grow! Bred
carefully. Young stock for sale. By
Write your wants.
Nepenthe Poultry Ranch, New Florence, Mo.

1882. FINE BIRDS. 1901
Satisfaction or money back. L. A. Brahms, Black Langhans, B. Fly Rocks, S. L. Wyandotte. They will do you good. H. T. REED, Oak Point, Ill.

The Twice-a-Week Republic

Pain-Killer

Cures Coughs, Colds, Sore Throat, Croup, Diphtheria, Rheumatism and all Winter complaints. It

Kills Pain, Internal or External.

There are many kinds of pain, but there is only one **Pain-Killer**. Keep it by you. Beware of imitations. Buy only the genuine—Ferry Davis. Sold Everywhere. 50c & \$1.00 per bottle.

DIP MOORE'S HOG REMEDY

And cures Mange and Choker, kill Lice and Furry Growth, remove Worms and PREVENT CHOLERA, at a cost of

FEED Five Cents Per Hog Per Year.

A postal gets particulars and book on "CARE OF HOGS." Address Moore Chem. Co., Dept. 1, 1301 Genesee St., Kansas City, Mo.

GOTSWOLD SHEEP FOR SALE

Bucks and ewes, home and Canada bred; all registered and for sale at reasonable prices. Write, so trouble to answer. H. D. Burruss, R. F. D. 2, Carrollton, Illinois.

MERINOS—F. D. C. and Delaine.

Greatest World's Fair Winners. Best all purpose sheep. Greatest wool producers. I keep the best 30 extra rams for sale. Also Top Rams. L. E. Shattuck, St. Louis, Mo.

Shropshire Yearling Rams and Poland-Chinas.

Rather sex; good pedigree and individual merit. My motto: I will sell you stock worth the money. Call on or address J. W. HOLDS, Axtelville, Mo.

South Down Rams and Berkshire Pigs.

Either sex. Individual merit and choice breeding my motto. Stock sold worth the money. Call on or address C. A. McCUE, Axtelville, Mo.

HAMPSHIRE DOWN SHEEP: The best sheep on other breeds.

Best of all breeds. Choice ram lambs for sale. Address: Millard H. Orewiler, Shelbyville, Mo.

BERKSHIRES.

LARGE ENGLISH BERKSHIRES—\$2.00 buy a pig of either sex; best of breeding. R. P. Chickens, White Turkeys, etc. G. W. McINTOSH, Monett, Mo.

POLAND-CHINAS.

POLAND CHINAS—We have some extra fancy pigs of 150 lbs. and some fancy pigs of both sex of fall farrow to offer the trade. They are perfect in color, bred by U. S. Chief of the Missouri State Fair. I know, Prince Rader and Mark Winchester. Price, \$10 to \$15; money returned if stock is not satisfactory. L. A. Spies Breeding Co., St. Jacob, Illinois.

VIVION & ALEXANDER, FULTON, MO.

Breeders of the best strains of Poland-China hogs. Registered Jersey cattle and Plymouth Rock chickens. Young stock for sale at all times.

A nice lot of fall pigs, bred by Vivion & Alexander, U. S. Chief of the Missouri State Fair, are now on hand. Also a few extra pigs of both sex of fall farrow to offer the trade. They are perfect in color, bred by U. S. Chief of the Missouri State Fair. I know, Prince Rader and Mark Winchester. Price, \$10 to \$15; money returned if stock is not satisfactory. L. A. Spies Breeding Co., St. Jacob, Illinois.

WALNUT VALLEY STOCK FARM.

Has for sale some fine Poland-China sows, bred to have that are of the best quality. Also a few extra pigs of both sex of fall farrow to offer the trade. They are perfect in color, bred by U. S. Chief of the Missouri State Fair. I know, Prince Rader and Mark Winchester. Price, \$10 to \$15; money returned if stock is not satisfactory. L. A. Spies Breeding Co., St. Jacob, Illinois.

POLAND-CHINAS.

Glits-edge pedigree and individual merit. Address: R. L. ORGAN, Carni, White Co., Ill.

DUROC-JERSEYS.**ROSE HILL HERD OF DUROC-JERSEY HOGS.**

A good lot of choice early pigs from sows of prolific strain, and a few extra pigs of both sex of fall farrow to offer the trade. They are perfect in color, bred by U. S. Chief of the Missouri State Fair. I know, Prince Rader and Mark Winchester. Price, \$10 to \$15; money returned if stock is not satisfactory. L. A. Spies Breeding Co., St. Jacob, Illinois.

DUROC-JERSEYS and W. P. ROCKS.

Choice young stock for sale. Address: E. S. THOMAS, R. F. D. No. 4, Carthage, Mo.

Choice Lot of Sept. & Oct. Gifts

to breed in May. A few males same age. Sold out on other days. S. G. RICHARDS, Strang, Mo.

DUROC-JERSEYS—20 sows ready for service.

Glits and old sows bred; registered and individual merit. Address: N. B. SAWYER, Cherryvale, Kan.

MAPLE HILL HERD DUROC-JERSEY HOGS.

I have a grand lot of spring pigs to offer the trade; good individuals and breeding second to none. HARRY REED, Smithton, Mo.

Duroc-Jersey and Berkshire Hogs!

Extra large, early, and good. Satisfaction guaranteed or you may return at my expense. S. G. WAGNER, Pana, Ill.

FARMS.

GET OUR FREE LIST of Farm Bargains. 8 R. L. Morton & Co., Real Estate Agents, Agricultural, Mineral, Coal and Timber Land. Office, 831 Lincoln Trust Building, St. Louis.

FOR SALE—Two highly improved farms (adjacent to each other) on 100 acres. A golden opportunity, or will rent for cash rent. J. H. CLARKSON, 214 S. Commercial, St. Louis.

Don't Rent**Establish a Home of Your Own**

Read "THE CORN BELT," a handsome monthly magazine, beautifully illustrated, containing exact and truthful information about farm lands in the West. Send 25 cents in postage stamps for a year's subscription to THE CORN BELT, 309 Adams Street, Chicago.

ABOUT CROSSING BREEDS—If

a male of any particular breed is crossed on another breed keep on in the same line of males. There can be no permanent success in crossing back and forth, using a Poland-China, then a Berkshire, then a Duroc or a Chester White, and to cap the climax use a Red Tamworth. This manner of breeding is to be condemned and cannot bring success. Those who breed along these lines are not market toppers and generally have to make an occasional clean-up and start anew. Select your color of breed and stay by it. Should any one cross breed, and it is a Duroc-Jersey boar that is selected, follow him up with another year after year on the grades and success is certain.

O. B. WEST.

James Johnson of Monroe City owns a large farm near Union Valley church in Marion county, on which he put 70 Angora goats last week, which he expects to consume the underbrush, of which there is a great deal on the place. The animals come from Texas, weigh about 80 pounds apiece and cost 2 1/2 cents a pound. They will produce about 3 1/2 pounds of wool per head, and Angora wool is worth 33 cents a pound on the market this year.

The Pig Pen**THE FUTURE OF THE BERKSHIRE.**

(Read by Wm. D. McTavish, before Iowa Swine Breeders, June 11, 1901.)

If there is one thing more pleasant than another about breeding swine it is breeding large English Berkshire swine; that good old breed that has withstood the onslaughts of all new comers and held its own so successfully at all times and in all climates. Any breed that has stood the test of time and is in the second century of its existence is certainly secure in its future. It is of necessity a survival of the fittest.

The Berkshire is to the swine field as the brave old oak to the forest; he has withstood the tempests of fads and fashions for over a hundred years, and is still the most lasting and enduring. He has had no booms or soaring prices, but has gone steadily on the even tenor of his way to that practical improvement that makes him to-day the best all-around hog for all climates and all purposes on earth. He is the leading favorite of England, that breeding ground of the world, where royalty itself is found in the breeder's ranks, whence came the Hackney, Cleveland, Bay and Shire horses; the Shorthorn, Hereford, Aberdeen-Angus and Red Polled cattle; the Short-horn, Leicester, Southdown, Shropshire, Hampshire, Oxford and Dorset sheep. We also find him a favorite in Ireland, British Columbia, Central America, Canada, and nearly every state in these United States.

The Berkshire has always had just grounds for the foremost position he had held among the breeds of swine, and he has no doubt been a source of help to them. To the Berkshire breeder the past is truly an inspiration.

The present has its duties and the future its possibilities. The duties of the present being faithfully performed regardless of the fads or fashion, the Berkshire will, in the not far distant future, be the leading favorite of the corn belt.

As the pork barrel is the end of the hog, so the hog that can fill it in the most satisfactory manner is in the end the most useful. This the Berkshire can do with both quality and quantity, as he produces a greater proportion of lean or nicely marbled flesh, and when it comes to size he is unequalled. He is an excellent grazer, and on account of his great inherent vitality and strength of constitution he is more able to live to reach the pork barrel. In productivity and evenness in breeding he is unsurpassed. The sows are good sucklers and careful mothers. None can point to as long a line of carefully selected ancestors as the Berkshire.

On this foundation the breeders of today are rearing the superstructure of the future—the coming Berkshire hog of the corn belt. They are producing a hog that is truly a money maker, a rent payer, a bread winner and a mortgage lifter.

SWINE AT THE FAIR.

Nearly \$1,000 to be Distributed Among the Swine Breeders.

The breeders of swine, who will exhibit stock at the Missouri State Fair at Sedalia, Sept. 9-13, will have superior accommodations furnished by the magnificent Swine building which has been erected on the State Fair grounds and equipped especially for the advantageous exhibition of swine.

Nearly \$1,000 in cash premiums have been offered by the state fair officers for the best exhibits of Berkshire, Poland-China, Chester White and Duroc-Jerseys, and the exhibition of swine will probably be the largest and best ever seen in this country.

Breeders all over the country are taking an unusual interest in the Missouri State Fair, probably for the reason that Missouri has produced more champion hogs than all the other states combined, and consequently the Missouri bred hog is in demand from all parts of the United States and Canada.

The swine show is certain to be one of the great features of the live stock exhibitions of the First Missouri State Fair, and the large Swine building will be one of the centers of attraction for all visitors.

FEEDING AND CARE OF SWINE.

In my opinion swine should be fed and managed with two objects in view: health, because without this no profit can be expected, and good growth for feed consumed. In other words, the result desired is to make a profit on the feed consumed and the time necessary for taking care of hogs, says a correspondent of O. V. Farmer.

I believe that this result can be attained by proceeding in the most natural manner possible, or in other words, secure as nearly as may be the conditions which surround the original wild hog. Do not misunderstand me; I do not mean to say that I think the wild hog could be produced at a profit or even with satisfaction now, but he certainly possessed health and great vigor. To secure this for our domestic breeds is highly desirable, for without health and vigor we cannot expect our hogs to eat and digest with profit our modern high-priced feeds.

In my own practice I never kept my breeding stock fat. I believe it is impossible to raise strong and healthy pigs from fat parents. My pigs are raised mostly from old sows and never from sows less than 12 to 15 months old. After the pigs nurse I feed them very little, as scours is one of my worst troubles.

I have found no way to prevent this except by limiting the feed for these sows for a month or so after farrowing. Of course, I feed my pigs in addition to what they get from the dams, but do this very carefully. I plan to change feed every few days, and right here allow me to say that 20 years ago I learned never to feed young pigs anything that I did not feed their dams.

I feed my hogs what I can raise on my farm, taking care to produce all the variety possible. Corn if rightly fed and supplemented with the other grains not of a fattening nature is one of the best feeds I know of. I like good wheat shorts for feeding with corn when not too costly. I have fed a great deal of this. For the last two years shorts have been very high and hard to get, so I have been feeding whole oats. I like oats nearly as well as shorts and they are much easier fed. I used to raise a large number of pumpkins, but of late years have been unable to do this on account of the bugs, which destroyed the vines. I keep my hogs on pasture as much as possible, and have never been able to

The Shepherd**SHEEP GRUBS.**

Editor RURAL WORLD: It is with considerable hesitancy that I take my pen, feeling much as does your correspondent, M. M. Johnson, in the poultry columns, and that I owe you and your readers an apology for presuming to know something about sheep grubs. No such consideration, however, seemed to restrain the writer of the article copied by you from the "Republic," which appeared in your issue of July 17. I am inclined to think that what the writer of that article does not know of the subject of sheep grubs would fill a sizable volume. Of all the venerable moss-grown and utterly worthless remedies, that of smearing the sheep's nose with tar is the worst. This alleged remedy has appeared in the agricultural press periodically almost from the time when "Adam was a boy." It is a bit antediluvian wisdom that has probably descended to us from simian ancestors.

It must be plain to the lowest intellect that any sheep of average business qualifications would while grazing scrub the tar off its nose in about three shakes of a lamb's tail; and to keep the sheep's nose properly smeared would necessitate the employment of a swift youth armed with a tin bucket and paint brush to accompany the flock to pasture. Certainly his job would be no sinecure.

Permit me to state that I have cured sheep of grubs by a remedy so badly affected that they would fall 30 times in going as many feet. The remedy is simple, certain and instantly effective. It is this: With a small syringe or spring bottom oil dropper squirt a little turpentine up each nostril. On releasing the sheep you will find that even when it could not stand before the application, it can now run a quarter or a half mile without falling once, and to all intents and purposes is instantly cured.

Query.—Is not blind staggers in hogs due to grub in the head, and if so, would not the same remedy be effective?

Miller Co., Mo. JOHN KELLY.

It seems to me that Mr. Kelly's condemnation of the tar remedy for grub-in-the-head is a trifle too strong. As a matter of fact, the writer of the article he refers to did advise its use as a remedy for grub-in-the-head, and the method of applying—mixing with whale oil soap and smearing the sides of the salt trough with the mixture, so that when the sheep are licking salt, they will get some of the mixture on their noses—is so easy that if only partially preventive it is worth making use of. It is far better to prevent the grubs getting into the sheep's head than to have to use a cure so instantaneous and complete as Mr. Kelly says is turpentine.

But let us say here that no apology is due from Mr. Kelly or any other RURAL WORLD readers for calling attention to what, from their point of view, are mistakes and improper advice. The sum of human wisdom is augmented, and knowledge is greatly disseminated by just that process. Our thanks, then, and those of our readers are due Mr. Kelly and any whenever they correct an error and offer a new suggestion.

A GENERAL PURPOSE BREED OF SHEEP.

A correspondent of Colman's RURAL WORLD sent that journal the following query:

"I would like your opinion as to the best all-purpose breed of sheep. I have 80 head of nice Cotswold and Leicester ewes, and want a buck of the best all-purpose breed to put with them. I am young and inexperienced, and advice will be appreciated; also information as to where I can get such a buck as will best suit my need."

To which the editor of the RURAL WORLD replied:

"Either the Leicester or the Cotswold is a good general purpose sheep, and breeding his flock along one or the other line, Mr. Powers can secure satisfactory results. Should he wish to increase the number of his flock of breeding ewes and develop those that possess excellent breeding qualities and which will produce lambs having early maturing, good grazing, feeding and killing qualities, one cross with a Dorset ram on his present flock will be desirable. This ewe bred to a Shropshire ram will give good results in lambs for market and a good yield of wool. Experienced sheep breeders are of the opinion that the best breed of sheep, like the Cotswolds, Leicesters and Lincoln, are not as successful in this climate as are the more compact fleeced breeds like the Southdowns, Dorsets and Merinos."

It strikes us that the reply of the editor is Delphic in its uncertainty, but can be quoted on all sides of the question. First, the Leicester and the Cotswold are good general purpose sheep, but to make them more "general purpose" he suggests a cross of a Dorset ram and then breeding the resulting ewes to a Shropshire ram. Now, if the two breeds first mentioned are "general purpose" sheep, why mongrelize them? But lower down we come to the probable reason for this peculiar advice. The editor admits that the "long wool, open-face breeds" like the Cotswolds, Leicesters and Lincoln, are not as successful in this climate as are the more compact fleeced breeds like the Southdowns, Dorsets and Merinos."

And it strikes us that the editor of the "Michigan Farmer," by eliminating a paragraph from the foregoing quotation from our columns, thus giving him a better chance to criticize adversely, was actuated by a purpose which while it may not have been Delphic, was certainly very honorable, and might be characterized as — We will let his own sense of right supply the proper term.

L. G. JONES, Towanda, Ill., is making a special offering of Shropshire rams. He has some good ones, well worth the price asked for them. Look up his advertisement and get into communication with him.

If sheep are kept in flocks of not more than fifty they will do best, especially of the mutton breeds.

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MISSOURI SHEEP.

A Grand Exhibition of Them at the Missouri State Fair.

The growing interest in Missouri in the breeding of sheep and in the production of the higher grades of wool have induced the officers of the Missouri State Fair to offer very liberal cash premiums for the exhibition of the most popular breeds of sheep at the Missouri State Fair at Sedalia, September 9-13.

The cash premiums for sheep amount to nearly \$1,000, and are offered for exhibitions of Cotswolds, Leicesters, Oxford, American and French Merinos. In the wool department a cash premium of \$10 is offered for the best fleece of combing wool, while like premiums are offered for the best fleeces of medium wool, line wool and the best quality of wool.

The sheep building at the State Fair grounds is one of the finest structures ever erected for exhibition purposes. It is 200 by 300 feet in dimensions and contains 466 sheep pens. In the center of the building is a commodious arena for the display of stock, which is surrounded by an amphitheater, containing raised seats for the accommodation of visitors to the fair and which permits an excellent view of the animals while they are being exhibited in the arena.

C. J. Cloyd, of Fayette, Howard County, who is the superintendent of the Sheep and Wool Department, will furnish any information desired by breeders and owners of sheep.

SPECIAL PREMIUMS

Offered by the American Southdown Breeders' Association.

To encourage breeders of Southdowns in making large and creditable exhibits of their flocks at the fall fairs, the American Southdown Breeders' Association will add to the regular premiums offered by various fair associations very substantial sums.

The merits of the Southdown need only to be known to be appreciated, and one of the most effective ways in which to advertise the breed is by large and creditable exhibits at the agricultural fairs.

Every breeder of Southdowns is urged to make an exhibit at as many fairs as possible. If you cannot attend the state or national fairs, you can at least make an exhibit at your local fairs, and thus assist in bringing the Southdowns to the front.

The premiums offered by this association will be awarded in connection with those of the different fairs, and the rules governing entries for the premiums offered by the fair associations will be applicable to exhibitors for the special premiums offered by this Association, except as noted.

Premiums will be paid by this Association upon the certificate of the Secretary of the fair association at which the award is made, giving the prize won and the names and record numbers of the animals upon which the award was made, with the name and address of the exhibitor.

Full particulars regarding their premiums may be had by addressing Frank S. Springer, Secretary, Springfield, Ill.

NAVAJO SHEEP RAISING.

The Navajo Indians are unique in respect to their success in the sheep industry. They do not have the best breeds and do not take the best care of the wool, says the "Farm and Field." But a considerable place in the market. An exchange says "the tribe is wealthy through its flocks. The tribesmen are able to own little short of 1,000,000 head, the care of the flocks and the weaving of wool being almost the sole occupation of the 22,000 Indians. Singular to relate, only a small part of the Navajo wool crop is worked up at home into the wonderful blankets that have made the tribe famous. One of the coarser and cheaper blankets are now made of the native wool."

The Navajo woman of the family owns the flock. This is an unwritten law of the tribe, and it gives to the Indian woman a certain amount of respect and independence not known in other Indian tribes.

The Navajos learned to raise sheep from a policy adopted by General W. T. Sherman in 1882. They were prisoners at Fort Stanton, and in releasing them Gen. Sherman ordered issued a few sheep to each family. Their reservation proved to be a good region for sheep raising, with water and valleys to shield from the cold winds of winter. Probably Gen. Sherman could not have done a better thing for the tribe than to set them on the road to self-support and to a lucrative industry as he did.

SHEEP IN SUMMER.

Some farmers expect almost too much of sheep. They turn them out in the summer on a pasture of mullins and thistles, and expect them in the fall to yield good mutton and wool. Sheep will do their share in increasing the profits of the farmer, but they demand in return some little intelligent care and attention. The mutton breeds require better attention, probably, than the wool in summer, but thousands of goats are annually shipped to market, bought and slaughtered by the big packers, but it comes out as mutton. It eminently suits many American housewives, for it just meets their demands. Whether it would do so well if she knew just exactly what she was being handed across the counter is another story.

GRUBS ON A SHEEP'S BRAIN.

Finding a sheep not well, I killed it, and found the enclosed grubs just under the brain. Can you give me a remedy through your paper?—A Subscriber in London, Eng., Farmer.

The specimen sent is the grub or bot of the sheep (aestivus oviv). The fly lays its eggs about the nostrils of the sheep in the warm weather and the grubs mature in the cavities of the face, sometimes reaching the brain and causing fits and death. Quite recently another subscriber sent us specimens which had been taken from the air tubes of the lungs. All parasites are disposed to wander at times out of the beaten track, but to each is given the instinct to seek the situation where it or its descendants can best thrive. In districts where sheep huddle together in terror of the fly, it is well to anoint the nostrils with sulphur and vasoline, or a little weak mercurial ointment. The treatment, you will see, consists in prevention, so far as lies in your power; it is extremely doubtful if any injection up the nose would reach or decompose the grubs, but I have known sneezing to dislodge them.

YET.

A farmer who cannot find pleasure in handling the swill pail for the pigs is not able to enjoy all the pleasures of the farm.

Pigs after weaning should have plenty of milk; it is an economical as well as a profitable food.

OPENING PUBLIC SALE**OF GRANDLY BRED****POLAND-CHINAS,**

At Gibson City, Illinois, - - Tuesday, August 6th, 1901.

55 Aristocrats of the Breed**MOSTLY SOWS, BRED.**

This offering is worthy the Best Breeders' attention.

Come Over and help open the great sale season. It will do you good.

W. C. HUEY, Gibson City, Ill., Consigns 16 DAISIES. You Are Sure to Want Them.

Sired by 23 GREATIES! BOARS OF THE BREED

15 HEAD bred to the \$3000 hog I Am Perfection, the sire of Improver, that recently sold for \$600. 7 HEAD bred or will have litters by their side by the much talked about hog, Chief Perfection 2d; among these is the extra line yearling sow, Miss May Wonder, by Perfect Wonder, the \$1,500 boar, with an extra line litter by her side by Chief Perfection 2d. Ross says if any breeder is not satisfied that buys her on a mail order can return sow at his expense. She is put in as an attraction. Other sows bred to Perfect Wonder, the \$1,500 King Perfection, the "Business Ham" hog, owned by Woodbury & Butler; \$1,500 hog, R. A. Chief, the Illinois State Fair winner; \$1,500 hog, R. A. Chief, the Illinois State Fair winner; \$1,5

